

تامل الكمل PRIs مادختساب لوصول و مداخ نيوكت تاطابترالاة ددعت م ة دراو ل ISDN و Async

المحتويات

- [المقدمة](#)
- [المتطلبات الأساسية](#)
- [المتطلبات](#)
- [المكونات المستخدمة](#)
- [المنتجات ذات الصلة](#)
- [الاصطلاحات](#)
- [التكوين](#)
- [الرسم التخطيطي للشبكة](#)
- [التكوينات](#)
- [التحقق من الصحة](#)
- [نموذج عرض الإخراج](#)
- [استكشاف الأخطاء وإصلاحها](#)
- [موارد استكشاف الأخطاء وإصلاحها](#)
- [أوامر استكشاف الأخطاء وإصلاحها](#)
- [إخراج تصحيح الأخطاء للعينة](#)
- [معلومات ذات صلة](#)

المقدمة

في العديد من البيئات، يلزمك تكوين خادم وصول يمكنه قبول المكالمات الواردة من مستخدمي Async و ISDN على حد سواء. ويمكن لهؤلاء المستخدمين بعد ذلك الاتصال بالشبكة بسلاسة كما لو كانوا حاضرين ماديا. يستخدم هذا الإعداد بشكل شائع لتوفير إمكانية الاتصال بالشبكة للمستخدمين الذين يسافرون ويعملون من بعد، وكذلك لمواقع المكاتب المنزلية الصغيرة (SOHO).

يوضح هذا المستند كيفية تكوين خادم Access لقبول مكالمات Async و ISDN الواردة على دارات ISDN T1 PRI. يوفر التكوين الحد الأدنى للإعداد المطلوب لخادم الوصول إلى الشبكة (NAS) لقبول المكالمات. يمكنك إضافة ميزات إضافية إلى هذا التكوين استنادا إلى احتياجاتك.

المتطلبات الأساسية

المتطلبات

لا توجد متطلبات خاصة لهذا المستند.

المكونات المستخدمة

تستند المعلومات الواردة في هذا المستند إلى إصدارات البرامج والمكونات المادية التالية:

- Cisco AS5300 مع 192 أجهزة مودم MICA وثمانية منافذ T1 التي تعمل ببرنامج Cisco IOS © الإصدار 12.2(5).
 - إثنان من T1 PRI.
 - كمبيوتر يعمل بنظام التشغيل Microsoft Windows. يحتوي هذا الكمبيوتر على مودم تناظري واتصال هاتف بشبكة هاتف المحول العام. يقوم الكمبيوتر بحفظ T1 PRI المتصل ب AS5300.
 - موجّهات السلسلتان 800 و 1600 من Cisco مع دوائر ISDN BRI. هذه الموجّهات هي عملاء اتصال ISDN. يتم توفير التكوين ل Cisco 1600. يمكنك تطبيق تكوين العميل هذا على أي موجّه باستخدام واجهة BRI.
 - المصادقة والتفويض والمحاسبة المحلية (AAA). إذا كان لديك خادم AAA RADIUS أو TACACS+، فيمكنك استخدام أي منهما لتوفير AAA للمكالمات الواردة.
- ملاحظة:** تكوين الموجه Cisco 800 مماثل لتكوين الموجه Cisco 1600، ولا يتم تضمينه في هذا المستند.

تم إنشاء المعلومات الواردة في هذا المستند من الأجهزة الموجودة في بيئة معملية خاصة. بدأت جميع الأجهزة المستخدمة في هذا المستند بتكوين ممسوح (افتراضي). إذا كانت شبكتك مباشرة، فتأكد من فهمك للتأثير المحتمل لأي أمر.

المنتجات ذات الصلة

يمكنك استخدام هذا التكوين مع أي موجّه يحتوي على بطاقات T1 أو PRI ومودم رقمي داخلي (على سبيل المثال، MICA أو NextPort أو Microcom). ويمكن لأي موجّه من سلسلة AS5xxx مزود ببطاقة T1 أو PRI ومودم رقمية استخدام المفاهيم في هذا التكوين.

لا تدعم الموجّهات من السلسلة Cisco 2600 أجهزة المودم الرقمية الداخلية. يمكنك تكوين موجّهات سلسلة Cisco 2600 لقبول مكالمات ISDN فقط، شريطة أن يحتوي الموجه على T1 أو PRI WIC أو وحدة الشبكة النمطية.

يمكن لموجهات سلسلة Cisco 3600 دعم كل من مكالمات ISDN والمودم. ومع ذلك، تتطلب الموجّهات من السلسلة Cisco 3600 وجود بطاقة واجهة شبكة (WIC) أو T1 PRI أو وحدة شبكة، الوحدة النمطية لشبكة المودم الرقمي NM-xDM.

أنت يستطيع أيضا جعلت تعديل أن يستعمل هذا تشكيل مع E1 أو PRI ميناء. قم بتكوين وحدة التحكم في الفئة E1 باستخدام إنشاء الخط والإطار والخصائص المادية الأخرى التي يوفرها Telco لديك. تكوين قناة D (الواجهة serial E1s ل x:15) مماثل للتكوين المبين في هذا المستند.

الاصطلاحات

للحصول على مزيد من المعلومات حول اصطلاحات المستندات، ارجع إلى [اصطلاحات تلميحات Cisco التقنية](#).

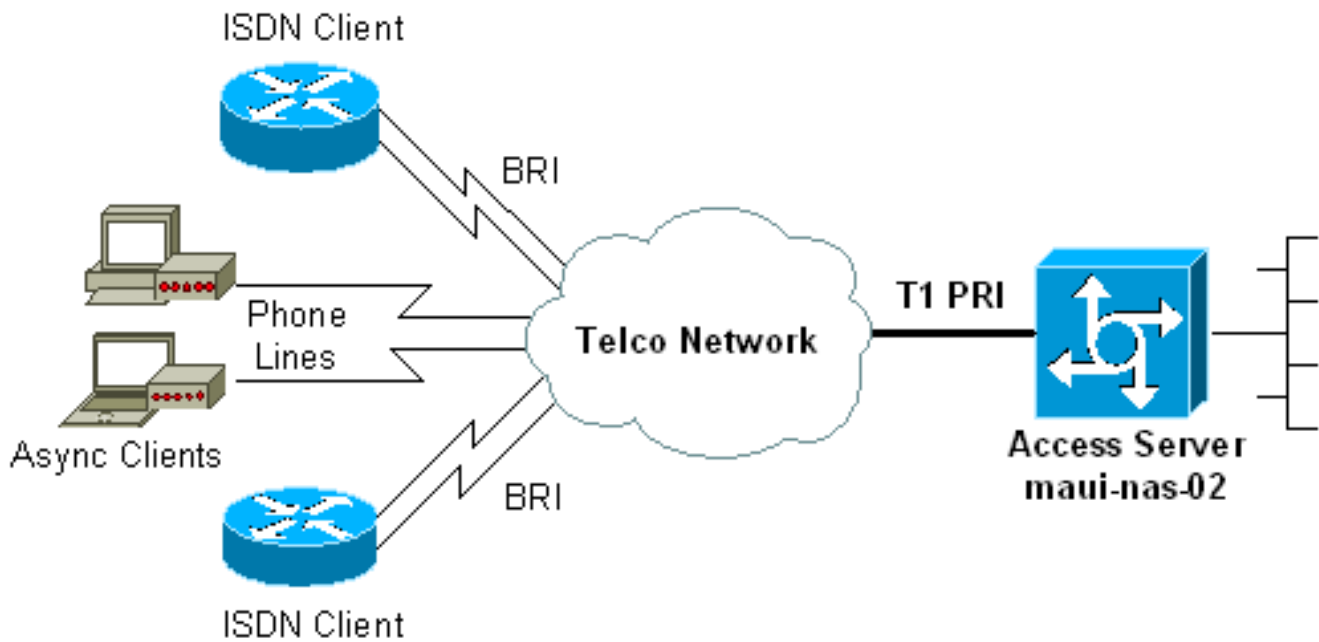
التكوين

في هذا القسم، تُقدّم لك معلومات تكوين الميزات الموضحة في هذا المستند.

ملاحظة: للعثور على معلومات إضافية حول الأوامر المستخدمة في هذا المستند، استخدم [أداة بحث الأوامر \(للعلماء المسجلين فقط\)](#).

الرسم التخطيطي للشبكة

يستخدم هذا المستند إعداد الشبكة التالي:



التكوينات

يستخدم هذا المستند التكوينات التالية:

- [\(maui-nas-02 \(5300](#)
- [ماوي-سوهو-01 \(1600\)](#)

(maui-nas-02 (5300

```

maui-nas-02#show running-config
...Building configuration

Current configuration : 3671 bytes
!
No configuration change since last restart !
!
version 12.2
service timestamps debug datetime msec
service timestamps log datetime msec
service password-encryption
!
hostname maui-nas-02
!
boot system flash:c5300-i-mz.122-5.bin
aaa new-model
aaa authentication login default local
aaa authentication login NO_AUTHEN none
aaa authentication ppp default local
aaa authorization network default local
PPP authentication and network authorization are ---!
local. !--- Replace local with radius or tacacs if you
.use an AAA server

<enable secret 5 <deleted
!
<username admin password 7 <deleted
<username async_user password 7 <deleted
<username travis_isdn password 7 <deleted

```

```

<username austin_isdn password 7 <deleted
Usernames for local authentication of the call. ---!
!--- The client presents the username/password and the
NAS !--- authenticates the peer. spe 1/0 1/8 firmware
location mica-modem-pw.2.7.3.0.bin spe 2/0 2/7 firmware
location mica-modem-pw.2.7.3.0.bin ! ip subnet-zero ip
domain-name maui-onions.com !--- Tells the NAS how to
qualify DNS lookups. !--- In this example, maui-
onions.com is appended to the end of each !--- looked-up
name. ip name-server 172.22.53.210 !--- Specifies the
primary name server. ! async-bootp dns-server
172.22.53.210 !--- Specifies (for async clients) the IP
address of domain name servers. isdn switch-type
primary-ni !--- Switch-type for this NAS. Obtain this
information from the Telco. ! controller T1 0 !--- First
T1 PRI framing esf !--- Framing for this T1 is Extended
Super Frame (ESF). !--- Obtain this information from the
Telco. clock source line primary !--- T1 0 is the
primary clock source for this NAS. !--- Clock source
must be specified for the timing and synchronization !--
- of the T1 carrier. linecode b8zs !--- Linecoding for
this T1. Obtain this information from the Telco. pri-
group timeslots 1-24 !--- For T1 PRI scenarios, all 24
T1 timeslots are assigned as !--- ISDN PRI channels. The
router now automatically creates the !--- corresponding
.D-channel: interface Serial 0:23

!
controller T1 1
Second T1 PRI. framing esf !--- Framing for this ---!
T1 is Extended Super Frame (ESF). !--- Obtain this
information from the Telco. clock source line secondary
1 !--- T1 1 is the first secondary clock source for this
NAS. !--- If the primary clock fails, this secondary
clock takes over. linecode b8zs !--- Linecoding for this
T1. Obtain this information from the Telco. pri-group
timeslots 1-24 !--- For T1 PRI scenarios, all 24 T1
timeslots are assigned as ISDN !--- PRI channels. The
router now automatically creates the !--- corresponding
.D-channel: interface Serial 1:23

!
controller T1 2
This T1 is unused. framing sf clock source line ---!
secondary 2 linecode ami ! !--- Unused interface
configuration is omitted here. ! interface Loopback0 ip
address 172.22.60.1 255.255.255.0 !--- The IP pool for
async users is in this subnet. !--- The routes for all
async clients are summarized and !--- propagated to the
backbone instead of 254 routes. ! interface Loopback1 ip
address 172.22.61.1 255.255.255.0 !--- The IP pool for
ISDN users is in this subnet. !--- The routes for all
ISDN clients are summarized and !--- propagated to the
backbone instead of 254 routes. ! interface Ethernet0 ip
address 172.22.53.140 255.255.255.0 ! !--- Unused
interface configuration is omitted here. ! interface
Serial0:23 !--- D-channel configuration for T1 0. no ip
address encapsulation ppp !--- PPP encapsulation on this
interface. dialer rotary-group 10 !--- T1 0 is a member
of rotary group 10. !--- The rotary group configuration
is in interface Dialer 10. isdn switch-type primary-ni
isdn incoming-voice modem !--- All incoming voice calls
on this T1 are sent to the modems. !--- This command is
required if this T1 is to accept async calls. no cdp

```

```
enable ppp authentication chap ppp multilink ! interface
Serial1:23 !--- D-channel configuration for T1 1. no ip
address encapsulation ppp !--- PPP encapsulation on this
interface. dialer rotary-group 10 !--- T1 1 is a member
of rotary group 10. !--- The rotary group configuration
is in interface Dialer 10. isdn switch-type primary-ni
isdn incoming-voice modem !--- All incoming voice calls
on this T1 are sent to the modems. !--- This command is
required if this T1 is to accept async calls. no cdp
enable ppp authentication chap ppp multilink ! interface
Group-Async0 !--- This group-async interface is the
configuration template for all modems. !--- You need not
configure individual async interfaces because you can !-
-- clone the interfaces from one managed copy. ip
unnumbered Loopback0 !--- A Loopback interface is always
up/up. So, unnumber the loopback interface !--- for
stability. encapsulation ppp dialer in-band dialer idle-
timeout 900 dialer-group 5 !--- Interesting traffic is
defined in dialer-list 5. !--- Note: The specified
dialer-group number must be the same as the !--- dialer-
list number. In this example, the number is defined as
."5
```

```
async mode interactive
Users can dial in and get to a shell or PPP ---!
session on that line. !--- You can use this command in
conjunction with autoselect ppp !--- under the line
configuration to automatically detect the connection
.type
```

```
peer default ip address pool ASYNC
Clients are assigned addresses from the IP address ---!
pool named ASYNC. no fair-queue ppp authentication chap
!--- Use CHAP authentication. ppp multilink group-range
1 192 !--- Modems 1 through 192 are members of this
group async interface. ! interface Dialer10 !---
Configuration for rotary group 10. !--- The Dialer
interface number (10) must exactly match rotary !---
group number configured on the physical interfaces. ip
unnumbered Loopback1 !--- A Loopback interface is always
up/up. So, unnumber the loopback interface !--- for
stability. encapsulation ppp dialer in-band !--- Enable
V.25bis on this interface. dialer idle-timeout 900 !---
Idle timeout for incoming calls is 900 seconds (15
mins). dialer-group 5 !--- Apply interesting traffic
definition from dialer-list 5. !--- Note: The specified
dialer-group number must be the same !--- as the dialer-
list number. !--- In this example, the number is defined
."as "5
```

```
peer default ip address pool ISDN
Clients are assigned addresses from the IP ---!
address pool named ISDN. ppp authentication chap ppp
multilink ! router eigrp 69 network 172.22.0.0 auto-
summary no eigrp log-neighbor-changes ! ip local pool
ASYNC 172.22.60.2 172.22.60.254 ip local pool ISDN
172.22.61.2 172.22.61.254 !--- IP address pools for
dialin clients. ip classless no ip http server ! access-
list 101 remark Interesting Traffic Definition to be
used in dialer-list 5 access-list 101 deny eigrp any any
access-list 101 permit ip any any dialer-list 5 protocol
ip list 101 !--- Access-list 101 defines interesting
traffic. This definition is applied !--- to interface
Dialer 10 and Group-Async 0 through dialer-group 5. !---
```

Note: The specified **dialer-list** number must be the same as the **!--- dialer-group** number. In this example, the . "number is defined as "5

```
!
line con 0
exec-timeout 0 0
login authentication NO_AUTHEN
Apply AAA list NO_AUTHEN configured previously. ---!
!--- That list has method "none". !--- There is no
authentication on the console port. line 1 192 modem
InOut !--- Support incoming and outgoing modem calls.
transport input all autoselect during-login ! ---
Displays the username:password prompt after modems
connect. autoselect ppp !--- Automatically launches PPP
if the router detects incoming PPP packets. !--- Without
this command the dialin client must manually !--- launch
PPP (from Exec mode). line aux 0 line vty 0 4 ! ntp
clock-period 17180107 ntp server 172.22.53.1 end
```

ماوي-سوهو-01 (1600)

```
maui-soho-01#show running-config
...Building configuration

Current configuration : 1609 bytes
!
version 12.1
no service single-slot-reload-enable
service timestamps debug datetime msec
service timestamps log datetime msec
service password-encryption
!
hostname maui-soho-01
!
logging rate-limit console 10 except errors
!
<username admin password 7 <deleted
ip subnet-zero
no ip finger
!
isdn switch-type basic-ni
Switch-type for the BRI circuit. Obtain this ---!
information from the Telco. ! interface Ethernet0 ip
address 10.0.0.1 255.255.255.0 no keepalive ! interface
Serial0 no ip address shutdown ! interface BRI0 !--- BRI
physical interface configuration. no ip address !--- An
IP address is not required on the physical BRI interface
because !--- this is a dialer pool. !--- The IP
addressing functionality is in interface Dialer 1
(dialer pool). encapsulation ppp dialer pool-member 1 !-
-- Places the interface into dialer pool 1 from which
Dialer interfaces !--- can draw channels as needed. !---
Links the physical interface with the logical dialer
interfaces. !--- Dialer Pool 1 is defined in interface
Dialer 1. isdn switch-type basic-ni isdn spid1
51255511110101 5551111 isdn spid2 51255511120101 5551112
!--- Service Profile IDentifiers (SPIDs) are found
primarily in North America. !--- SPIDs are not required
for certain switch types. Confirm with your Telco. !---
If the Telco informs you that you do not need SPIDs, do
not use these !--- two SPID commands. ppp authentication
chap callin !--- Perform one way CHAP authentication.
```

```

    ppp multilink !--- Permit multilink on this BRI
    interface. ! interface Dialer1 !--- This dialer is the
    logical interface for the dialer pool. ip address
    negotiated !--- IP address for this interface is
    obtained from the NAS during !--- IPCP negotiation.
    Alternatively, you can also unnumber this interface !---
    to a working interface (example, ethernet 0).
encapsulation ppp dialer pool 1 !--- Defines Dialer pool
    1. !--- BRI 0 is a member of this pool. dialer idle-
    timeout 900 !--- Idle-timout for this link is 900
    seconds (15 minutes). !--- The link is disconnected if
    there is no interesting traffic for 900 secs. dialer
    string 81560 class 56k !--- Dial 81560 and use the map-
    class named "56k". dialer load-threshold 1 outbound !---
    Sets the outbound load level for traffic at which !---
    additional connections are added to the MP bundle load
    level. !--- Values range from 1 (unloaded) to 255 (fully
    loaded). !--- With a threshold of 1, the additional
    links are immediately !--- brought up and added to the
    bundle. dialer-group 1 !--- Apply interesting traffic
    definition from dialer-list 1. ppp authentication chap
    callin !--- Use one way PPP CHAP authentication. ppp
    chap hostname austin_isdn !--- Use the CHAP username
    austin_isdn to authenticate to the other router. ppp
    chap password 7 <deleted> !--- Use this CHAP password to
    authenticate to the other router. ppp multilink !---
    Allow multilink for the dialer profile. !--- Without
    this command multilink is NOT negotiated. ! ! ip
    classless ip route 0.0.0.0 0.0.0.0 Dialer1 !--- Set the
    default route to be interface Dialer 1 (the dialer
    pool). !--- Traffic sent to int Dialer1 causes the
    dialer pool member (int BRI 0) !--- to be dialed. no ip
    http server ! ! map-class dialer 56k !--- Map-class
    named "56k" that you used with the dialer string in int
    Dialer1. dialer isdn speed 56 !--- Set the speed of the
    call to be 56k (the default speed is 64k). !--- This
    setting is optional for your connection. !--- Consult
    your Telco to find out if you need to configure the dial
    !--- speed to 56k. access-list 101 remark Interesting
    traffic for dialer-list 1 access-list 101 deny udp any
    any eq ntp access-list 101 permit ip any any !--- Define
    NTP traffic as NOT interesting to prevent periodic NTP
    traffic !--- from keeping the link up indefinitely. !---
    All other IP traffic is interesting. !--- Change this
    depending on your traffic needs. dialer-list 1 protocol
    ip list 101 !--- Access-list 101 defines interesting
    traffic. !--- Apply this to interface Dialer 1 through
    the command dialer-group 1. !--- Note: The specified
dialer-list number must be the same as the !--- dialer-
group number. In this example, the number is defined as
    "1

    !
    line con 0
    transport input none
    line vty 0 4
    login
    !
    ntp clock-period 17042429
    ntp server 172.22.53.1
    end

```

التحقق من الصحة

يوفر هذا القسم معلومات يمكنك استخدامها للتأكد من أن التكوين يعمل بشكل صحيح.

يتم دعم بعض أوامر العرض بواسطة أداة مترجم الإخراج (العملاء المسجلون فقط)، والتي تتيح لك عرض تحليل إخراج أمر العرض.

- **show isdn status** — يضمن أن الموجه يتصل بشكل صحيح مع محول ISDN. في المخرجات، تأكد من أن هي ، وأن `MULTI_FRAME_ESTABLISHED = 2` تظهر. يعرض هذا الأمر أيضا عدد المكالمات النشطة. راجع [إستخدام الأمر show isdn status لاكتشاف أخطاء BRI وإصلاحها](#) للحصول على مزيد من المعلومات.
- **show ppp multilink** — يعرض معلومات عن الحزم متعددة الارتباطات النشطة. أستخدم هذا الأمر للتحقق من الاتصال متعدد الارتباطات.
- **show dialer [نوع الواجهة number]** — يعرض معلومات التشخيص العامة للواجهات التي تم تكوينها ل DDR. في حالة ظهور المتصل بشكل صحيح، يجب أن تظهر رسالة . إذا ظهرت فإن التلميح هو أن بروتوكول الخط ظهر، لكن بروتوكول التحكم في الشبكة (NCP) لم يظهر. يتم عرض عناوين المصدر والوجهة للحزمة التي بدأت الطلب في سطر . يعرض هذا الأمر **show** أيضا تكوين المؤقت، والوقت قبل انتهاء مهلة الاتصال.
- **إظهار تفاصيل اسم مستخدم المتصل** — يعرض معلومات للمستخدم المعين، على سبيل المثال، معلمات عنوان IP المعين و PPP وحزمت PPP. إذا لم يدعم إصدار برنامج Cisco IOS هذا الأمر، فاستخدم الأمر **show user**.
- **إظهار خريطة المتصل** — يعرض خرائط المتصل الديناميكية والثابتة التي تم تكوينها. يمكنك إستخدام هذا الأمر للتحقق مما إذا تم إنشاء خريطة متصل ديناميكي. لا يمكنك توجيه الحزم بدون خريطة المتصل.

نموذج عرض الإخراج

فيما يلي بعض مخرجات أوامر العرض للمكالمات الناجحة. انتبهوا إلى الاقسام الجريئة والتعليقات المقدمة في الناتج. قارن المخرجات التي تحصل عليها مع النتائج الموضحة هنا.

عرض عام

```
maui-nas-02#show users
Line          User          Host(s)      Idle      Location
con 0         con 0         idle        00:00:00 0 *
tty 97       async_user   Async interface 00:06:36  PPP: 172.22.60.2 97
Async User. The IP address of the peer is indicated. Interface User Mode Idle Peer Address ---!
Vi1          austin_isd  Virtual PPP (Bundle) 00:03:35 172.22.61.2
Vi2          travis_isd  Virtual PPP (Bundle) 00:00:20 172.22.61.3
Virtual-Access Interface for the two multilink PPP users. Se0:1      austin_isd Sync PPP ---!
- Bundle: Vi1
Se0:2        austin_isd Sync PPP - Bundle: Vi1
User austin_isdn is connected through two B-channels(Multilink PPP). !--- Interface ---!
Virtual-Access 1 (Vi1) controls the two B-channels. Se0:3      travis_isd Sync PPP
- Bundle: Vi2
Se0:4        travis_isd Sync PPP - Bundle: Vi2
User travis_isdn is connected through two B-channels (Multilink PPP). !--- Interface ---!
Virtual-Access 2 (Vi2) controls the two B-channels. maui-nas-02#show dialer map
Observe the Dynamic Dialer Maps created for each dialin client. Dynamic dialer map ip ---!
172.22.60.2 name async_user () on As97 Dynamic dialer map ip 172.22.61.2 name austin_isdn () on
Di10 Dynamic dialer map ip 172.22.61.3 name travis_isdn () on Di10
```

```
maui-nas-02#show users
Line          User          Host(s)      Idle      Location
con 0         con 0         idle        00:00:00 0 *
tty 97       async_user   Async interface 00:06:36  PPP: 172.22.60.2 97
Async User. The IP address of the peer is indicated. Interface User Mode Idle Peer Address ---!
```



```

Vi1          austin_isd Virtual PPP (Bundle) 00:03:35 172.22.61.2
Vi2          travis_isd Virtual PPP (Bundle) 00:00:20 172.22.61.3
Virtual-Access Interface for the two multilink PPP users. Se0:1          austin_isd Sync PPP ---!
- Bundle: Vi1
Se0:2          austin_isd Sync PPP - Bundle: Vi1
User austin_isdn is connected through two B-channels(Multilink PPP). !--- Interface ---!
Virtual-Access 1 (Vi1) controls the two B-channels. Se0:3          travis_isd Sync PPP
- Bundle: Vi2
Se0:4          travis_isd Sync PPP - Bundle: Vi2

```

User travis_isdn is connected through two B-channels (Multilink PPP). !--- Interface ---!
Virtual-Access 2 (Vi2) controls the two B-channels. maui-nas-02#show dialer map
Observe the Dynamic Dialer Maps created for each dialin client. Dynamic dialer map ip ---!
172.22.60.2 name async_user () on As97 Dynamic dialer map ip 172.22.61.2 name austin_isdn () on
Di10 Dynamic dialer map ip 172.22.61.3 name travis_isdn () on Di10

```

maui-nas-02#show users
Line      User      Host(s)      Idle      Location
con 0      con 0      idle         00:00:00 0 *
tty 97     async_user Async interface 00:06:36  PPP: 172.22.60.2 97
Async User. The IP address of the peer is indicated. Interface User Mode Idle Peer Address ---!

```

```

Vi1          austin_isd Virtual PPP (Bundle) 00:03:35 172.22.61.2
Vi2          travis_isd Virtual PPP (Bundle) 00:00:20 172.22.61.3
Virtual-Access Interface for the two multilink PPP users. Se0:1          austin_isd Sync ---!
PPP - Bundle: Vi1
Se0:2          austin_isd Sync PPP - Bundle: Vi1
User austin_isdn is connected through two B-channels(Multilink PPP). !--- Interface ---!
Virtual-Access 1 (Vi1) controls the two B-channels. Se0:3          travis_isd Sync PPP
- Bundle: Vi2
Se0:4          travis_isd Sync PPP - Bundle: Vi2
User travis_isdn is connected through two B-channels (Multilink PPP). !--- Interface ---!

```

Virtual-Access 2 (Vi2) controls the two B-channels. maui-nas-02#show dialer map
Observe the Dynamic Dialer Maps created for each dialin client. Dynamic dialer map ip ---!
172.22.60.2 name async_user () on As97 Dynamic dialer map ip 172.22.61.2 name austin_isdn () on
Di10 Dynamic dialer map ip 172.22.61.3 name travis_isdn () on Di10

للحصول على مكالمة تناظرية

```
maui-nas-02#show caller user async_user detail
```

User: async_user, line tty 97, service Async

Shows hardware-level settings for the user named async_user. Active time 00:00:34, ---!
Idle time 00:00:16 Timeouts: Absolute Idle Idle Session Exec Limits: - - 00:10:00 Disconnect in:
- - - TTY: Line 97, **running PPP on As97**

The call is terminated on interface Async 97. !--- This interface is included in the ---!
Group-Async configuration. Location: **PPP: 172.22.60.2**
IP address for the peer. This address is obtained from the IP pool "ASYNC". **DS0: ---!**
(slot/unit/channel)=0/0/2

T1 channel on which the call arrived. !--- The call arrived on channel 0 in T1 0. ---!
Line: Baud rate (TX/RX) is 115200/115200, no parity, 1 stopbits, 8 databits Status: Ready,
Active, No Exit Banner, Async Interface Active HW PPP Support Active Capabilities: Hardware
Flowcontrol In, Hardware Flowcontrol Out Modem Callout, Modem RI is CD, Line usable as async
interface, Integrated Modem Modem State: Ready **User: async_user, line As97, service PPP**
PPP setting for the user named async_user. !--- Notice that the call is terminated on ---!
int Async97. Active time 00:00:32, Idle time 00:00:30 Timeouts: Absolute Idle Limits: - 00:15:00
Disconnect in: - 00:14:28 PPP: **LCP Open**, multilink Closed, CHAP (<- AAA), IPCP
LCP state is OPEN. If LCP state is not OPEN, !--- use debug ppp negotiation to ---!

.isolate LCP issues

```

LCP: -> peer, ACCM, AuthProto, MagicNumber, PCompression, ACCompression
peer, ACCM, MagicNumber, PCompression, ACCompression ->

```

NCP: Open IPCP

IPCP state is open. If IPCP state is not OPEN, !--- use debug ppp negotiation to ---!
.isolate IPCP issues

IPCP: <- peer, Address
peer, Address <-
Dialer: Connected, inbound
Idle timer 900 secs, idle 31 secs
Type is IN-BAND ASYNC, group As97
IP: Local 172.22.60.1, remote 172.22.60.2
NAS IP address and the IP address assigned to the peer. Counts: 27 packets input, 1545 ---!
bytes, 0 no buffer
input errors, 1 CRC, 0 frame, 0 overrun 1
packets output, 347 bytes, 0 underruns 14
output errors, 0 collisions, 0 interface resets 0
.Packets pass through the connection ---!

استدعاء ISDN

maui-nas-02#**show caller user austin_isdn detail**
The user named austin_isdn has two PPP links, !--- and one virtual interface bundle. ---!
User: austin_isdn, line Se0:3, service PPP
Shows PPP layer settings for the first channel !--- that belongs to the user named ---!
austin_isdn. Active time 00:04:01, Idle time 00:00:00 Timeouts: Absolute Idle Limits: - -
(Disconnect in: - - PPP: **LCP Open**, multilink Open, CHAP (<- AAA
LCP state is OPEN. If LCP state is not OPEN, !--- use debug ppp negotiation to ---!
.isolate LCP issues

LCP: -> peer, AuthProto, MagicNumber, MRRU, EndpointDisc
peer, MagicNumber, MRRU, EndpointDisc ->
Dialer: **Connected, inbound**
Type is ISDN, group Di10

Incoming call used rotary group of int Dialer 10. IP: Local 172.22.61.1 ---!
IP address of the int Loopback 1. !--- Remember that int Dialer 1 was unnumbered to ---!
Loop 1. !--- The remote IP address is indicated under the virtual-interface. Bundle: Member of
austin_isdn, last input 00:00:00 Counts: 55 packets input, 1635 bytes, 0 no buffer 0 input
errors, 0 CRC, 0 frame, 0 overrun 82 packets output, 3479 bytes, 0 underruns 0 output errors, 0
collisions, 0 interface resets **User: austin_isdn, line Se0:4, service PPP**
Shows PPP layer settings for the second channel !--- that belongs to the user named ---!
austin_isdn. Active time 00:03:59, Idle time 00:00:00 Timeouts: Absolute Idle Limits: - -
Disconnect in: - - PPP: LCP Open, multilink Open, CHAP (<- AAA) LCP: -> peer, AuthProto,
MagicNumber, MRRU, EndpointDisc <- peer, MagicNumber, MRRU, EndpointDisc Dialer: Connected to ,
inbound Type is ISDN, group Di10 IP: Local 172.22.61.1 Bundle: Member of austin_isdn, last input
00:00:00 Counts: 50 packets input, 1589 bytes, 0 no buffer 0 input errors, 0 CRC, 0 frame, 0
overrun 77 packets output, 3429 bytes, 0 underruns 0 output errors, 0 collisions, 0 interface
resets **User: austin_isdn, line Vi1, service PPP Bundle**
Shows Virtual-Access Interface Bundle that controls the connections. Active time ---!
00:04:02, Idle time 00:04:01 Timeouts: Absolute Idle Limits: - 00:15:00 Disconnect in: -
00:10:58 PPP: LCP Open, multilink Open, IPCP, CDPCP LCP: -> peer, MagicNumber, MRRU,
EndpointDisc <- peer NCP: **Open IPCP**, CDPCP
IPCP State is open. If IPCP state is not OPEN, !--- use debug ppp negotiation to ---!
.isolate IPCP issues

IPCP: <- peer, Address
peer, Address <-
Dialer: Connected, inbound
Idle timer 900 secs, idle 1 secs
Type is IN-BAND SYNC, group Di10
IP: Local 172.22.61.1, remote 172.22.61.2
Dialer interface (Local) IP address !--- and the IP address assigned to the peer. ---!
Bundle: First link of austin_isdn, 2 links, last input 00:00:01 Counts: 12 packets input, 1712
bytes, 0 no buffer 0 input errors, 0 CRC, 0 frame, 0 overrun 67 packets output, 5030 bytes, 0
underruns 0 output errors, 0 collisions, 0 interface resets

استكشاف الأخطاء وإصلاحها

يوفر هذا القسم معلومات يمكنك استخدامها لاستكشاف أخطاء التكوين وإصلاحها.

موارد استكشاف الأخطاء وإصلاحها

أستخدم هذه الموارد كما هو مطلوب:

- [استكشاف أخطاء مكالمة المودم الواردة وإصلاحها](#)—أستخدم هذا المستند لاستكشاف أخطاء الاتصال التناظري وإصلاحها.
- [إستدعاء مودم PRI Async](#)—أستخدم هذا المستند للحصول على معلومات إضافية لاستكشاف أخطاء المكالمات التناظرية وإصلاحها.
- [استكشاف أخطاء مكالمات ISDN الواردة وإصلاحها](#)—أستخدم هذا المستند لاستكشاف أخطاء إستدعاء ISDN وإصلاحها.
- [PRI ISDN Call](#)—أستخدم هذا المستند للحصول على معلومات إضافية لاستكشاف أخطاء إستدعاء ISDN وإصلاحها.
- [T1 استكشاف أخطاء المخطط الانسيابي وإصلاحها](#)—أستخدم هذا المخطط الانسيابي إذا كنت تشك في أن الدائرة T1 لا تعمل بشكل صحيح.
- [إختيارات الاسترجاع لخطوط T1/56K](#)—أستخدم هذا المستند لتأكيد أن المنفذ T1 على الموجه يعمل بشكل صحيح.

أوامر استكشاف الأخطاء وإصلاحها

يتم دعم بعض أوامر العرض بواسطة [أداة مترجم الإخراج \(العملاء المسجلون فقط\)](#)، والتي تتيح لك عرض تحليل [إخراج أمر العرض](#).

ملاحظة: قبل إصدار أوامر تصحيح الأخطاء، يرجى الاطلاع على [المعلومات المهمة في أوامر تصحيح الأخطاء](#).

- [debug dialer](#)—يعرض معلومات تصحيح أخطاء DDR حول الحزم المستلمة على واجهة المتصل. يمكن أن تساعد هذه المعلومات في ضمان وجود حركة مرور مثيرة للاهتمام تستخدم واجهة المتصل.
- [debug isdn q931](#)—يعرض إعداد الاستدعاءات وتخريب اتصال شبكة ISDN (الطبقة 3).
- [debug modem](#)—يعرض نشاط خط المودم على خادم الوصول. يعرض الإخراج عند تغيير حالة خط المودم.
- [debug modem csm](#)—يمكنك من استكشاف أخطاء وحدة تحويل المكالمات النمطية (CSM) وإصلاحها على الموجهات التي تحتوي على أجهزة مودم رقمية داخلية. باستخدام هذا الأمر، يمكنك تتبع التسلسل الكامل لتحويل المكالمات الواردة والصادرة.
- [debug ppp negotiation](#)—يعرض معلومات حول حركة مرور بيانات PPP وعمليات تبادلها، ويتفاوض على بروتوكول التحكم في الارتباط (LCP) والمصادقة وبروتوكول التحكم في الشبكة (NCP). يقوم بتفاوض PPP الناجح أولاً بفتح حالة LCP، ثم يقوم بالمصادقة، وأخيراً بالتفاوض على NCP. يتم إنشاء معلمات الارتباط المتعدد مثل وحدة الاستقبال المعاد إنشاؤها القسوى (MRRU) أثناء تفاوض LCP.
- [debug ppp authentication](#)—يعرض رسائل بروتوكول مصادقة PPP، بما في ذلك عمليات تبادل حزم CHAP ومصادقة كلمة المرور (PAP).
- [تصحيح أخطاء PPP](#)—يعرض أخطاء البروتوكول وإحصائيات الخطأ المرتبطة بالتفاوض حول اتصال PPP وتشغيله.

إخراج تصحيح الأخطاء للعبئة

فيما يلي بعض مخرجات [تصحيح الأخطاء](#) للمكالمات الناجحة. أن تولي اهتماماً للأجزاء التي تم تجميعها والتعليقات المقدمة في النواتج. قارن المخرجات التي تحصل عليها مع النتائج الموضحة هنا.

```
maui-nas-02#debug isdn q931
ISDN Q931 packets debugging is on
maui-nas-02#debug modem
Modem control/process activation debugging is on
maui-nas-02#debug modem csm
Modem Management Call Switching Module debugging is on
maui-nas-02#debug ppp negotiation
PPP protocol negotiation debugging is on
maui-nas-02#debug ppp authentication
PPP authentication debugging is on

maui-nas-02#
Sep 28 13:13:28.369: ISDN Se0:23: RX <- SETUP pd = 8 callref = 0x5285
```

*Incoming Q.931 SETUP message. This indicates an incoming call. !--- For more ---!
information on Q.931 refer to !--- [Troubleshooting ISDN BRI Layer 3 using the debug isdn q931](#)
.Command*

```
Sep 28 13:13:28.369: Bearer Capability i = 0x9090A2
Sep 28 13:13:28.369: Channel ID i = 0xA18383
Sep 28 13:13:28.369: Progress Ind i = 0x8183 - Origination address is non-ISDN
Sep 28 13:13:28.369: Called Party Number i = 0xA1, '81560', Plan:ISDN, Type:National
Sep 28 13:13:28.373: VDEV_ALLOCATE: 2/0 is allocated
The Call Switch Module (CSM) is informed about the call. !--- The CSM allocates modem ---!  
2/0 to the incoming call. Sep 28 13:13:28.373: EVENT_FROM_ISDN::dchan_idb=0x618569F4,  
call_id=0x28, ces=0x0 bchan=0x2, event=0x1, cause=0x0 Sep 28 13:13:28.373: dev in call to isdn :  
set dnis_collected & fap_notify Sep 28 13:13:28.373: EVENT_FROM_ISDN:(0028): DEV_INCALL at slot  
2 and port 0 Sep 28 13:13:28.373: EVENT_FROM_ISDN: decode:calling Oct3 0x0, called oct3 0xA1,  
oct3a 0x0,mask 0x3C Sep 28 13:13:28.373: EVENT_FROM_ISDN: csm_call_info:calling Oct3 0x0, called  
oct3 0xA1, oct3a 0x0,mask 0x3C Sep 28 13:13:28.377: CSM_PROC_IDLE: CSM_EVENT_ISDN_CALL at slot  
2, port 0 Sep 28 13:13:28.377: Mica Modem(2/0): Configure(0x1 = 0x0) Sep 28 13:13:28.377: Mica  
Modem(2/0): Configure(0x23 = 0x0) Sep 28 13:13:28.377: Mica Modem(2/0): Call Setup  
CSM sends the Call Setup Message to Modem 2/0. !--- The modem must now go off-hook. ---!  
Sep 28 13:13:28.377: csm_connect_pri_vdev: TS allocated at bp_stream 0, bp_Ch 0,vdev_common  
0x6141BB68 Sep 28 13:13:28.377: ISDN Se0:23: TX -> CALL_PROC pd = 8 callref = 0xD285  
Sep 28 13:13:28.377: Channel ID i = 0xA98383  
The Call Proceeding Message is sent through the D-channel. Sep 28 13:13:28.377: ISDN ---!  
Se0:23: TX -> ALERTING pd = 8 callref = 0xD285 Sep 28 13:13:28.445: Mica Modem(2/0): State  
Transition to Call Setup  
Modem transitions to state Call Setup. !--- For more information on MICA Modem States ---!  
refer to MICA Modem States. Sep 28 13:13:28.445: Mica Modem(2/0): Went offhook  
Modem informs the CSM that it went offhook. Sep 28 13:13:28.445: CSM_PROC_IC2_RING: ---!  
CSM_EVENT_MODEM_OFFHOOK at slot 2, port 0 Sep 28 13:13:28.445: ISDN Se0:23: TX -> CONNECT pd =  
8 callref = 0xD285  
D-channel transmits a CONNECT. Sep 28 13:13:28.461: ISDN Se0:23: RX <- CONNECT_ACK pd ---!  
= 8 callref = 0x5285  
The Q.931 CONNECT_ACK message is received. Sep 28 13:13:28.461: ISDN Se0:23: ---!  
CALL_PROGRESS: CALL_CONNECTED call id 0x28, bchan 2, dsl 0 Sep 28 13:13:28.461:  
EVENT_FROM_ISDN::dchan_idb=0x618569F4, call_id=0x28, ces=0x0 bchan=0x2, event=0x4, cause=0x0 Sep  
28 13:13:28.461: EVENT_FROM_ISDN:(0028): DEV_CONNECTED at slot 2 and port 0 Sep 28 13:13:28.461:  
CSM_PROC_IC6_WAIT_FOR_CONNECT: CSM_EVENT_ISDN_CONNECTED at slot 2, port 0 Sep 28 13:13:28.465:  
Mica Modem(2/0): Link Initiate  
When the Q.931 CONNECT_ACK message is received, the Link initiate message !--- is sent ---!  
to the MICA modem, and negotiation with remote modem occurs. Sep 28 13:13:28.465: %ISDN-6-  
CONNECT: Interface Serial0:2 is now connected to N/A N/A Sep 28 13:13:29.557: Mica Modem(2/0):  
State Transition to Connect  
Modem moves to the Connect state. Sep 28 13:13:34.073: Mica Modem(2/0): State ---!  
Transition to Link Sep 28 13:13:45.478: Mica Modem(2/0): State Transition to Trainup Sep 28  
13:13:53.642: Mica Modem(2/0): State Transition to EC Negotiating Sep 28 13:13:54.122: Mica  
Modem(2/0): State Transition to Steady State
```

Modem transitions to the Steady state. Sep 28 13:13:54.266: TTY97: DSR came up *!--- ---!*
Indicates that the modem trainup is complete. Sep 28 13:13:54.266: tty97: Modem: IDLE->(unknown)
Sep 28 13:13:54.266: TTY97: EXEC creation Sep 28 13:13:54.266: TTY97: set timer type 10, 30
seconds Sep 28 13:13:57.202: TTY97: Autoselect(2) sample 7E Sep 28 13:13:57.202: TTY97:
Autoselect(2) sample 7EFF Sep 28 13:13:57.202: TTY97: Autoselect(2) sample 7EFF7D Sep 28
13:13:57.202: TTY97: Autoselect(2) sample 7EFF7D23 Sep 28 13:13:57.202: TTY97 Autoselect cmd:
ppp negotiate *!--- The router detects PPP packets and automatically launches PPP.* Sep 28
13:13:57.206: TTY97: EXEC creation Sep 28 13:13:57.206: TTY97: create timer type 1, 600 seconds
Sep 28 13:13:57.334: TTY97: destroy timer type 1 Sep 28 13:13:57.334: TTY97: no timer type 0 to
destroy Sep 28 13:13:57.334: As97 IPCP: Install route to 172.22.60.2 Sep 28 13:13:59.334: %LINK-
3-UPDOWN: Interface Async97, changed state to up Sep 28 13:13:59.334: As97 PPP: Treating
connection as a callin Sep 28 13:13:59.334: As97 PPP: Phase is ESTABLISHING, Passive Open [0
sess, 0 load] Sep 28 13:13:59.334: As97 LCP: State is Listen *!--- LCP negotiation begins.* Sep 28
13:14:00.214: As97 LCP: I CONFREQ [Listen] id 3 len 23 *!--- Incoming LCP CONFREQ. !--- For more
information on how to interpret PPP debugs, refer to !--- Dialup Technology: Troubleshooting
Techniques.* Sep 28 13:14:00.214: As97 LCP: ACCM 0x000A0000 (0x0206000A0000) Sep 28 13:14:00.214:
As97 LCP: MagicNumber 0x0F7CD34A (0x05060F7CD34A) Sep 28 13:14:00.214: As97 LCP: PFC (0x0702)
Sep 28 13:14:00.214: As97 LCP: ACFC (0x0802) Sep 28 13:14:00.214: As97 LCP: Callback 6
(0x0D0306) Sep 28 13:14:00.214: Unthrottle 97 Sep 28 13:14:00.214: As97 LCP: O CONFREQ [Listen]
id 1 len 43 Sep 28 13:14:00.214: As97 LCP: ACCM 0x000A0000 (0x0206000A0000) Sep 28 13:14:00.214:
As97 LCP: AuthProto CHAP (0x0305C22305) Sep 28 13:14:00.214: As97 LCP: MagicNumber 0x3090DE31
(0x05063090DE31) Sep 28 13:14:00.214: As97 LCP: PFC (0x0702) Sep 28 13:14:00.214: As97 LCP: ACFC
(0x0802) Sep 28 13:14:00.214: As97 LCP: MRRU 1524 (0x110405F4) Sep 28 13:14:00.214: As97 LCP:
EndpointDisc 1 Local (0x130E016D6175692D6E61732D3032) Sep 28 13:14:00.214: As97 LCP: O CONFREQ
[Listen] id 3 len 7 Sep 28 13:14:00.214: As97 LCP: Callback 6 (0x0D0306) Sep 28 13:14:00.342:
As97 LCP: I CONFREQ [REQsent] id 4 len 20 Sep 28 13:14:00.342: As97 LCP: ACCM 0x000A0000
(0x0206000A0000) Sep 28 13:14:00.342: As97 LCP: MagicNumber 0x0F7CD34A (0x05060F7CD34A) Sep 28
13:14:00.342: As97 LCP: PFC (0x0702) Sep 28 13:14:00.342: As97 LCP: ACFC (0x0802) Sep 28
13:14:00.342: As97 LCP: O CONFACK [REQsent] id 4 len 20 Sep 28 13:14:00.342: As97 LCP: ACCM
0x000A0000 (0x0206000A0000) Sep 28 13:14:00.342: As97 LCP: MagicNumber 0x0F7CD34A
(0x05060F7CD34A) Sep 28 13:14:00.342: As97 LCP: PFC (0x0702) Sep 28 13:14:00.342: As97 LCP: ACFC
(0x0802) Sep 28 13:14:02.214: As97 LCP: TIMEOUT: State ACKsent Sep 28 13:14:02.214: As97 LCP: O
CONFREQ [ACKsent] id 2 len 43 Sep 28 13:14:02.214: As97 LCP: ACCM 0x000A0000 (0x0206000A0000)
Sep 28 13:14:02.214: As97 LCP: AuthProto CHAP (0x0305C22305) Sep 28 13:14:02.214: As97 LCP:
MagicNumber 0x3090DE31 (0x05063090DE31) Sep 28 13:14:02.214: As97 LCP: PFC (0x0702) Sep 28
13:14:02.214: As97 LCP: ACFC (0x0802) Sep 28 13:14:02.214: As97 LCP: MRRU 1524 (0x110405F4) Sep
28 13:14:02.214: As97 LCP: EndpointDisc 1 Local (0x130E016D6175692D6E61732D3032) Sep 28
13:14:02.326: As97 LCP: I CONFREQ [ACKsent] id 2 len 22 Sep 28 13:14:02.326: As97 LCP: MRRU 1524
(0x110405F4) Sep 28 13:14:02.326: As97 LCP: EndpointDisc 1 Local
(0x130E016D6175692D6E61732D3032) Sep 28 13:14:02.326: As97 LCP: O CONFREQ [ACKsent] id 3 len 25
Sep 28 13:14:02.326: As97 LCP: ACCM 0x000A0000 (0x0206000A0000) Sep 28 13:14:02.326: As97 LCP:
AuthProto CHAP (0x0305C22305) Sep 28 13:14:02.326: As97 LCP: MagicNumber 0x3090DE31
(0x05063090DE31) Sep 28 13:14:02.326: As97 LCP: PFC (0x0702) Sep 28 13:14:02.326: As97 LCP: ACFC
(0x0802) Sep 28 13:14:02.518: As97 LCP: I CONFACK [ACKsent] id 3 len 25 Sep 28 13:14:02.518:
As97 LCP: ACCM 0x000A0000 (0x0206000A0000) Sep 28 13:14:02.518: As97 LCP: AuthProto CHAP
(0x0305C22305) Sep 28 13:14:02.518: As97 LCP: MagicNumber 0x3090DE31 (0x05063090DE31) Sep 28
13:14:02.518: As97 LCP: PFC (0x0702) Sep 28 13:14:02.518: As97 LCP: ACFC (0x0802) Sep 28
13:14:02.518: **As97 LCP: State is Open**
LCP negotiation is complete. Sep 28 13:14:02.518: As97 PPP: Phase is AUTHENTICATING, *---*
by this end [0 sess, 0 load] Sep 28 13:14:02.518: As97 CHAP: O CHALLENGE id 1 len 32 from "maui-
nas-02" Sep 28 13:14:02.646: As97 CHAP: I RESPONSE id 1 len 31 from "async_user" Sep 28
13:14:02.646: As97 AUTH: Started process 0 pid 34 Sep 28 13:14:02.650: **As97 CHAP: O SUCCESS** id 1
len 4
CHAP authentication is successful. !--- If authentication fails, check the username ---!
and password. !--- Refer to Dialup Technology: Troubleshooting Techniques . Sep 28 13:14:02.650:
As97 PPP: Phase is UP [0 sess, 0 load] Sep 28 13:14:02.650: As97 **IPCP: O CONFREQ** [Closed] id 1
len 10
IPCP negotiation begins. Sep 28 13:14:02.650: As97 IPCP: Address 172.22.60.1 *---*
(0x0306AC163C01) Sep 28 13:14:02.758: As97 IPCP: I CONFREQ [REQsent] id 1 len 40 Sep 28
13:14:02.758: As97 IPCP: CompressType VJ 15 slots CompressSlotID (0x0206002D0F01) Sep 28
13:14:02.758: As97 IPCP: Address 0.0.0.0 (0x030600000000) Sep 28 13:14:02.758: As97 IPCP:
PrimaryDNS 172.22.53.210 (0x8106AC1635D2) Sep 28 13:14:02.758: As97 IPCP: PrimaryWINS 0.0.0.0
(0x820600000000) Sep 28 13:14:02.758: As97 IPCP: SecondaryDNS 0.0.0.0 (0x830600000000) Sep 28
13:14:02.758: As97 IPCP: SecondaryWINS 0.0.0.0 (0x840600000000) Sep 28 13:14:02.758: As97

AAA/AUTHOR/IPCP: Start. Her address 0.0.0.0, we want 172.22.60.2 Sep 28 13:14:02.758: As97

.AAA/AUTHOR/IPCP: Done

Her address 0.0.0.0, we want 172.22.60.2

Address is obtained from the Address Pool named "Async". Sep 28 13:14:02.758: As97 ---!

IPCP: O CONFREQ [REQsent] id 1 len 28 Sep 28 13:14:02.758: As97 IPCP: CompressType VJ 15 slots
CompressSlotID (0x0206002D0F01) Sep 28 13:14:02.758: As97 IPCP: PrimaryWINS 0.0.0.0
(0x820600000000) Sep 28 13:14:02.758: As97 IPCP: SecondaryDNS 0.0.0.0 (0x830600000000) Sep 28
13:14:02.758: As97 IPCP: SecondaryWINS 0.0.0.0 (0x840600000000) Sep 28 13:14:02.802: As97 CCP: I
CONFREQ [Not negotiated] id 1 len 15 Sep 28 13:14:02.802: As97 CCP: MS-PPC supported bits
0x00000001 (0x120600000001) Sep 28 13:14:02.802: As97 CCP: Stacker history 1 check mode EXTENDED
(0x1105000104) Sep 28 13:14:02.802: As97 LCP: O PROTREQ [Open] id 4 len 21 protocol CCP Sep 28
13:14:02.802: As97 LCP: (0x80FD0101000F12060000000111050001) Sep 28 13:14:02.802: As97 LCP:
(0x04) Sep 28 13:14:02.802: As97 IPCP: I CONFACK [REQsent] id 1 len 10 Sep 28 13:14:02.802: As97
IPCP: Address 172.22.60.1 (0x0306AC163C01) Sep 28 13:14:04.650: As97 IPCP: TIMEOUT: State
ACKrcvd Sep 28 13:14:04.650: As97 IPCP: O CONFREQ [ACKrcvd] id 2 len 10 Sep 28 13:14:04.650:
As97 IPCP: Address 172.22.60.1 (0x0306AC163C01) Sep 28 13:14:04.758: As97 IPCP: I CONFACK
[REQsent] id 2 len 10 Sep 28 13:14:04.758: As97 IPCP: Address 172.22.60.1 (0x0306AC163C01) Sep
28 13:14:05.750: As97 IPCP: I CONFREQ [ACKrcvd] id 2 len 34 Sep 28 13:14:05.750: As97 IPCP:
Address 0.0.0.0 (0x030600000000) Sep 28 13:14:05.750: As97 IPCP: PrimaryDNS 172.22.53.210
(0x8106AC1635D2) Sep 28 13:14:05.750: As97 IPCP: PrimaryWINS 0.0.0.0 (0x820600000000) Sep 28
13:14:05.750: As97 IPCP: SecondaryDNS 0.0.0.0 (0x830600000000) Sep 28 13:14:05.750: As97 IPCP:
SecondaryWINS 0.0.0.0 (0x840600000000) Sep 28 13:14:05.750: As97 AAA/AUTHOR/IPCP: Start. Her
address 0.0.0.0, we want 172.22.60.2 Sep 28 13:14:05.750: As97 AAA/AUTHOR/IPCP: Done. Her
address 0.0.0.0, we want 172.22.60.2 Sep 28 13:14:05.750: As97 IPCP: O CONFREQ [ACKrcvd] id 2
len 22 Sep 28 13:14:05.750: As97 IPCP: PrimaryWINS 0.0.0.0 (0x820600000000) Sep 28 13:14:05.754:
As97 IPCP: SecondaryDNS 0.0.0.0 (0x830600000000) Sep 28 13:14:05.754: As97 IPCP: SecondaryWINS
0.0.0.0 (0x840600000000) Sep 28 13:14:05.878: As97 IPCP: I CONFREQ [ACKrcvd] id 3 len 16 Sep 28
13:14:05.878: As97 IPCP: Address 0.0.0.0 (0x030600000000) Sep 28 13:14:05.878: As97 IPCP:
PrimaryDNS 172.22.53.210 (0x8106AC1635D2) Sep 28 13:14:05.878: As97 AAA/AUTHOR/IPCP: Start. Her
address 0.0.0.0, we want 172.22.60.2 Sep 28 13:14:05.878: As97 AAA/AUTHOR/IPCP: Done. Her
address 0.0.0.0, we want 172.22.60.2 Sep 28 13:14:05.878: As97 IPCP: O CONFREQ [ACKrcvd] id 3
len 10 Sep 28 13:14:05.878: As97 IPCP: Address 172.22.60.2 (0x0306AC163C02) Sep 28 13:14:05.990:
As97 IPCP: I CONFREQ [ACKrcvd] id 4 len 16 Sep 28 13:14:05.990: As97 IPCP: Address 172.22.60.2
(0x0306AC163C02) Sep 28 13:14:05.990: As97 IPCP: PrimaryDNS 172.22.53.210 (0x8106AC1635D2) Sep
28 13:14:05.990: As97 AAA/AUTHOR/IPCP: Start. Her address 172.22.60.2, we want 172.22.60.2 Sep
28 13:14:05.990: As97 AAA/AUTHOR/IPCP: Reject 172.22.60.2, using 172.22.60.2 Sep 28
13:14:05.990: As97 AAA/AUTHOR/IPCP: Done. Her address 172.22.60.2, we want 172.22.60.2 Sep 28
13:14:05.994: As97 IPCP: O CONFACK [ACKrcvd] id 4 len 16 Sep 28 13:14:05.994: As97 IPCP: Address
172.22.60.2 (0x0306AC163C02) Sep 28 13:14:05.994: As97 IPCP: PrimaryDNS 172.22.53.210
(0x8106AC1635D2) Sep 28 13:14:05.994: **As97 IPCP: State is Open**
.IPCP negotiation is complete. The user is now connected ---!

لاستدعاء ISDN

maui-nas-02#**debug isdn q931**

ISDN Q931 packets debugging is on

maui-nas-02#**debug ppp negotiation**

PPP protocol negotiation debugging is on

maui-nas-02#**debug ppp authentication**

PPP authentication debugging is on

Sep 28 13:25:02.630: ISDN Se0:23: **RX <- SETUP** pd = 8 callref = 0x5346

Incoming Q.931 Setup message. Sep 28 13:25:02.630: Bearer Capability i = 0x8890218F ---!

Sep 28 13:25:02.630: Channel ID i = 0xA18384 Sep 28 13:25:02.630: Called Party Number i = 0xA1,

'81560', Plan:ISDN, Type:National Sep 28 13:25:02.634: %LINK-3-UPDOWN: Interface Serial0:3,

changed state to up Sep 28 13:25:02.638: Se0:3 PPP: Treating connection as a callin Sep 28

13:25:02.638: Se0:3 PPP: Phase is ESTABLISHING, Passive Open [0 sess, 1 load] Sep 28

13:25:02.638: Se0:3 LCP: State is Listen Sep 28 13:25:02.638: ISDN Se0:23: TX -> CALL_PROC pd =

8 callref = 0xD346 Sep 28 13:25:02.638: Channel ID i = 0xA98384 Sep 28 13:25:02.638: ISDN

Se0:23: TX -> CONNECT pd = 8 callref = 0xD346 Sep 28 13:25:02.638: Channel ID i = 0xA98384 Sep

28 13:25:02.658: ISDN Se0:23: RX <- CONNECT_ACK pd = 8 callref = 0x5346 Sep 28 13:25:02.658:

ISDN Se0:23: CALL_PROGRESS: **CALL_CONNECTED** call id 0x2B, bchan 3, dsl 0

Call is connected. Sep 28 13:25:02.886: Se0:3 LCP: I CONFREQ [Listen] id 61 len 28 Sep ---!

28 13:25:02.886: Se0:3 LCP: MagicNumber 0x1EB88B1C (0x05061EB88B1C) Sep 28 13:25:02.886: Se0:3 LCP: MRRU 1524 (0x110405F4) Sep 28 13:25:02.886: Se0:3 LCP: EndpointDisc 1 Local (0x130E0161757374696E5F6973646E) Sep 28 13:25:02.886: Se0:3 LCP: O CONFREQ [Listen] id 1 len 33 Sep 28 13:25:02.886: Se0:3 LCP: AuthProto CHAP (0x0305C22305) Sep 28 13:25:02.886: Se0:3 LCP: MagicNumber 0x309AFABD (0x0506309AFABD) Sep 28 13:25:02.886: Se0:3 LCP: MRRU 1524 (0x110405F4) Sep 28 13:25:02.886: Se0:3 LCP: EndpointDisc 1 Local (0x130E016D6175692D6E61732D3032) Sep 28 13:25:02.886: Se0:3 LCP: O CONFACK [Listen] id 61 len 28 Sep 28 13:25:02.886: Se0:3 LCP: MagicNumber 0x1EB88B1C (0x05061EB88B1C) Sep 28 13:25:02.886: Se0:3 LCP: MRRU 1524 (0x110405F4) Sep 28 13:25:02.886: Se0:3 LCP: EndpointDisc 1 Local (0x130E0161757374696E5F6973646E) Sep 28 13:25:02.922: Se0:3 LCP: I CONFACK [ACKsent] id 1 len 33 Sep 28 13:25:02.922: Se0:3 LCP: AuthProto CHAP (0x0305C22305) Sep 28 13:25:02.922: Se0:3 LCP: MagicNumber 0x309AFABD (0x0506309AFABD) Sep 28 13:25:02.922: Se0:3 LCP: MRRU 1524 (0x110405F4) Sep 28 13:25:02.922: Se0:3 LCP: EndpointDisc 1 Local (0x130E016D6175692D6E61732D3032) Sep 28 13:25:02.922: Se0:3 LCP: **State is Open**

LCP negotiation is complete. Sep 28 13:25:02.922: Se0:3 PPP: Phase is AUTHENTICATING, ---!
by this end [0 sess, 1 load] Sep 28 13:25:02.922: Se0:3 CHAP: O CHALLENGE id 1 len 32 from "maui-nas-02" Sep 28 13:25:02.954: Se0:3 CHAP: I RESPONSE id 1 len 32 from "austin_isdn" Sep 28 13:25:02.954: Se0:3 **CHAP: O SUCCESS** id 1 len 4

PPP CHAP authentication is successful. Sep 28 13:25:02.958: Se0:3 PPP: Phase is ---!
VIRTUALIZED [0 sess, 1 load] Sep 28 13:25:02.958: Vi1 PPP: Phase is DOWN, Setup [0 sess, 1 load] Sep 28 13:25:02.982: Vi1 PPP: Phase is DOWN, Setup [0 sess, 1 load] Sep 28 13:25:02.982: Se0:3 IPCP: Packet buffered while building MLP bundle interface Sep 28 13:25:02.986: **%LINK-3-UPDOWN: Interface Virtual-Access1 changed state to up**

Virtual-Access Interface is up. !--- This interface controls the incoming call. Sep 28 ---!
13:25:02.986: Vi1 PPP: Treating connection as a callin Sep 28 13:25:02.986: Vi1 PPP: Phase is ESTABLISHING, Passive Open [0 sess, 1 load] Sep 28 13:25:02.986: Vi1 LCP: State is Listen Sep 28 13:25:02.986: Vi1 PPP: Phase is UP [0 sess, 1 load] Sep 28 13:25:02.986: Vi1 IPCP: O CONFREQ [Closed] id 1 len 10 Sep 28 13:25:02.986: Vi1 IPCP: Address 172.22.61.1 (0x0306AC163D01) Sep 28 13:25:02.990: Vi1 MLP: Added first link Se0:3 to bundle austin_isdn Sep 28 13:25:02.990: Vi1 PPP: Pending ncpQ size is 1 Sep 28 13:25:02.990: Se0:3 IPCP: Redirect packet to Vi1 Sep 28 13:25:02.990: Vi1 IPCP: I CONFREQ [REQsent] id 45 len 10 Sep 28 13:25:02.990: Vi1 IPCP: Address 10.0.0.1 (0x03060A000001) Sep 28 13:25:02.990: Vi1 AAA/AUTHOR/IPCP: Start. Her address 10.0.0.1, we want 0.0.0.0 Sep 28 13:25:02.990: Vi1 AAA/AUTHOR/IPCP: Reject 10.0.0.1, using 0.0.0.0 Sep 28 13:25:02.990: Vi1 AAA/AUTHOR/IPCP: Done. Her address 10.0.0.1, we want 0.0.0.0 Sep 28 13:25:02.990: Vi1 IPCP: O CONFNAK [REQsent] id 45 len 10 Sep 28 13:25:02.990: Vi1 IPCP: **Address (172.22.61.2)** (0x0306AC163D02)

Peer IP address is assigned from IP Pool named "ISDN". Sep 28 13:25:02.990: Se0:3 ---!
CDPCP: MLP bundle interface is built, process packets now Sep 28 13:25:02.990: Se0:3 CDPCP: Redirect packet to Vi1 Sep 28 13:25:02.990: Vi1 CDPCP: I CONFREQ [Not negotiated] id 23 len 4 Sep 28 13:25:02.990: Vi1 LCP: O PROTREJ [Open] id 1 len 10 protocol CDPCP (0x820701170004) Sep 28 13:25:03.010: Vi1 IPCP: I CONFACK [REQsent] id 1 len 10 Sep 28 13:25:03.010: Vi1 IPCP: Address 172.22.61.1 (0x0306AC163D01) Sep 28 13:25:03.010: Vi1 IPCP: I CONFREQ [ACKrcvd] id 46 len 4 Sep 28 13:25:03.010: Vi1 IPCP: O CONFACK [ACKrcvd] id 46 len 4 Sep 28 13:25:03.010: **Vi1 IPCP: State is Open**

IPCP negotiation is complete. The call is now connected. Sep 28 13:25:03.014: Di10 ---!
IPCP: Install route to 172.22.61.2 Sep 28 13:25:03.958: %LINEPROTO-5-UPDOWN: Line protocol on Interface Serial0:3, changed state to up Sep 28 13:25:03.986: %LINEPROTO-5-UPDOWN: Line protocol on Interface Virtual-Access1, changed state to up Sep 28 13:25:04.146: ISDN Se0:23: **RX <- SETUP**
pd = 8 callref = 0x5409

The second link in the multilink connection arrives. Sep 28 13:25:04.150: Bearer ---!
Capability i = 0x8890218F Sep 28 13:25:04.150: Channel ID i = 0xA18385 Sep 28 13:25:04.150: Called Party Number i = 0xA1, '81560', Plan:ISDN, Type:National Sep 28 13:25:04.154: %LINK-3-UPDOWN: Interface Serial0:4, changed state to up Sep 28 13:25:04.154: %ISDN-6-CONNECT: Interface Serial0:3 is now connected to austin_isdn Sep 28 13:25:04.154: Se0:4 PPP: Treating connection as a callin Sep 28 13:25:04.154: Se0:4 PPP: Phase is ESTABLISHING, Passive Open [0 sess, 1 load] Sep 28 13:25:04.154: Se0:4 LCP: State is Listen Sep 28 13:25:04.158: ISDN Se0:23: TX -> CALL_PROC pd = 8 callref = 0xD409 Sep 28 13:25:04.158: Channel ID i = 0xA98385 Sep 28 13:25:04.158: ISDN Se0:23: TX -> CONNECT pd = 8 callref = 0xD409 Sep 28 13:25:04.158: Channel ID i = 0xA98385 Sep 28 13:25:04.178: ISDN Se0:23: RX <- CONNECT_ACK pd = 8 callref = 0x5409 Sep 28 13:25:04.178: ISDN Se0:23: CALL_PROGRESS: CALL_CONNECTED call id 0x2C, bchan 4, dsl 0 Sep 28 13:25:04.394: Se0:4 LCP: I CONFREQ [Listen] id 51 len 28 Sep 28 13:25:04.394: Se0:4 LCP: MagicNumber 0x1EB8910D (0x05061EB8910D) Sep 28 13:25:04.394: Se0:4 LCP: MRRU 1524 (0x110405F4) Sep 28 13:25:04.394: Se0:4 LCP: EndpointDisc 1 Local (0x130E0161757374696E5F6973646E) Sep 28

13:25:04.394: Se0:4 LCP: O CONFREQ [Listen] id 1 len 33 Sep 28 13:25:04.394: Se0:4 LCP: AuthProto CHAP (0x0305C22305) Sep 28 13:25:04.394: Se0:4 LCP: MagicNumber 0x309B00A6 (0x0506309B00A6) Sep 28 13:25:04.394: Se0:4 LCP: MRRU 1524 (0x110405F4) Sep 28 13:25:04.394: Se0:4 LCP: EndpointDisc 1 Local (0x130E016D6175692D6E61732D3032) Sep 28 13:25:04.394: Se0:4 LCP: O CONFACK [Listen] id 51 len 28 Sep 28 13:25:04.394: Se0:4 LCP: MagicNumber 0x1EB8910D (0x05061EB8910D) Sep 28 13:25:04.394: Se0:4 LCP: MRRU 1524 (0x110405F4) Sep 28 13:25:04.394: Se0:4 LCP: EndpointDisc 1 Local (0x130E0161757374696E5F6973646E) Sep 28 13:25:04.430: Se0:4 LCP: I CONFACK [ACKsent] id 1 len 33 Sep 28 13:25:04.430: Se0:4 LCP: AuthProto CHAP (0x0305C22305) Sep 28 13:25:04.430: Se0:4 LCP: MagicNumber 0x309B00A6 (0x0506309B00A6) Sep 28 13:25:04.430: Se0:4 LCP: MRRU 1524 (0x110405F4) Sep 28 13:25:04.430: Se0:4 LCP: EndpointDisc 1 Local (0x130E016D6175692D6E61732D3032) Sep 28 13:25:04.430: Se0:4 LCP: State is Open Sep 28 13:25:04.430: Se0:4 PPP: Phase is AUTHENTICATING, by this end [0 sess, 1 load] Sep 28 13:25:04.430: Se0:4 CHAP: O CHALLENGE id 1 len 32 from "maui-nas-02" Sep 28 13:25:04.462: Se0:4 CHAP: I RESPONSE id 1 len 32 from "austin_isdn" Sep 28 13:25:04.466: Se0:4 CHAP: O SUCCESS id 1 len 4 Sep 28 13:25:04.466: Se0:4 PPP: Phase is VIRTUALIZED [0 sess, 1 load] Sep 28 13:25:04.466: **Vi1 MLP: Added link Se0:4 to bundle austin_isdn**
An additional Link is now added to exiting Virtual Interface Bundle. Sep 28 ---!
13:25:05.466: %LINEPROTO-5-UPDOWN: Line protocol on Interface Serial0:4, changed state to up Sep :28 13:25:10.154: **%ISDN-6-CONNECT**
Interface Serial0:4 is now connected to austin_isdn
The second call is connected. The multilink Bundle is complete. maui-nas-02# ---!

معلومات ذات صلة

- [صفحات دعم تقنية الطلب والوصول](#)
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