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## Introduction

This example is intended to show a sample configuration of TACACS+ over IPv6 transport, described in [http://www.cisco.com/en/US/docs/ios/ipv6/configuration/guide/ip6-adsl\\_dial.html#wp1101974](http://www.cisco.com/en/US/docs/ios/ipv6/configuration/guide/ip6-adsl_dial.html#wp1101974)

## Design

For the purposes of the configuration, we will have a host with the mac address 00:0c:01:02:03:04 attached to the interface GigabitEthernet0/1 - the same host will run the TACACS+ server and also be used as a source host to SSH to the router.

## Configuration

This configuration does *\*not\** correspond 100% to a production configuration in the places other than TACACS+ configuration - for example, the password encryption would need to be turned on. Use this configuration only as a base start off with.

## Related show Commands

This section provides information you can use to confirm your configuration is working properly.

Certain show commands are supported by the [Output Interpreter Tool \(registered customers only\)](#), which allows you to view an analysis of show command output.

```
1941-01#sh deb
```

```
General OS:
```

```
TACACS access control debugging is on
TACACS+ events debugging is on
TACACS+ packets debugging is on
AAA Authentication debugging is on
AAA Authorization debugging is on
```

```
1941-01#
```

```
Sep 30 19:07:17.307: AAA/BIND(00000012): Bind i/f
Sep 30 19:07:19.307: AAA/AUTHEN/LOGIN (00000012): Pick method list 'FOO'
Sep 30 19:07:19.307: TPLUS: Queuing AAA Authentication request 18 for processing
Sep 30 19:07:19.307: TPLUS: processing authentication start request id 18
Sep 30 19:07:19.307: TPLUS: Authentication start packet created for 18(cisco)
```

## TACACS+\_Over\_IPv6\_Transport\_Configuration\_Example

```
Sep 30 19:07:19.307: TPLUS: Using server 2001:DB8::20C:1FF:FE02:304
Sep 30 19:07:19.307: TPLUS(00000012)/0/NB_WAIT/31730500: Started 5 sec timeout
Sep 30 19:07:19.307: TPLUS(00000012)/0/NB_WAIT: socket event 2
Sep 30 19:07:19.307: T+: Version 192 (0xC0), type 1, seq 1, encryption 1
Sep 30 19:07:19.307: T+: session_id 1018492586 (0x3CB4F6AA), dlen 45 (0x2D)
Sep 30 19:07:19.307: T+: type:AUTHEN/START, priv_lvl:1 action:LOGIN ascii
Sep 30 19:07:19.307: T+: svc:LOGIN user_len:5 port_len:6 (0x6) raddr_len:26 (0x0)
Sep 30 19:07:19.307: T+: user: cisco
Sep 30 19:07:19.307: T+: port: tty132
Sep 30 19:07:19.307: T+: rem_addr: 2001:DB8::20C:1FF:FE02:304
Sep 30 19:07:19.307: T+: data:
Sep 30 19:07:19.307: T+: End Packet
Sep 30 19:07:19.307: TPLUS(00000012)/0/NB_WAIT: wrote entire 57 bytes request
Sep 30 19:07:19.307: TPLUS(00000012)/0/READ: socket event 1
Sep 30 19:07:19.307: TPLUS(00000012)/0/READ: Would block while reading
Sep 30 19:07:19.307: TPLUS(00000012)/0/READ: socket event 1
Sep 30 19:07:19.307: TPLUS(00000012)/0/READ: read entire 12 header bytes (expec)
Sep 30 19:07:19.307: TPLUS(00000012)/0/READ: socket event 1
Sep 30 19:07:19.307: TPLUS(00000012)/0/READ: read entire 37 bytes response
Sep 30 19:07:19.307: T+: Version 192 (0xC0), type 1, seq 2, encryption 1
Sep 30 19:07:19.307: T+: session_id 1018492586 (0x3CB4F6AA), dlen 25 (0x19)
Sep 30 19:07:19.307: T+: AUTHEN/REPLY status:5 flags:0x1 msg_len:19, data_len:0
Sep 30 19:07:19.307: T+: msg: Welcome 0x0A 0x0A Password:
Sep 30 19:07:19.307: T+: data:
Sep 30 19:07:19.307: T+: End Packet
Sep 30 19:07:19.307: TPLUS(00000012)/0/31730500: Processing the reply packet
Sep 30 19:07:19.307: TPLUS: Received authen response status GET_PASSWORD (8)

! ---- The ssh session emits the "password:" prompt and awaits for the password to be entered.

Sep 30 19:07:32.107: TPLUS: Queuing AAA Authentication request 18 for processing
Sep 30 19:07:32.107: TPLUS: processing authentication continue request id 18
Sep 30 19:07:32.107: TPLUS: Authentication continue packet generated for 18
Sep 30 19:07:32.107: TPLUS(00000012)/0/WRITE/31730500: Started 5 sec timeout
Sep 30 19:07:32.107: T+: Version 192 (0xC0), type 1, seq 3, encryption 1
Sep 30 19:07:32.107: T+: session_id 1018492586 (0x3CB4F6AA), dlen 10 (0xA)
Sep 30 19:07:32.107: T+: AUTHEN/CONT msg_len:5 (0x5), data_len:0 (0x0) flags:0x0
Sep 30 19:07:32.107: T+: User msg: <elided>
Sep 30 19:07:32.107: T+: User data:
Sep 30 19:07:32.107: T+: End Packet
Sep 30 19:07:32.107: TPLUS(00000012)/0/WRITE: wrote entire 22 bytes request
Sep 30 19:07:32.107: TPLUS(00000012)/0/READ: socket event 1
Sep 30 19:07:32.107: TPLUS(00000012)/0/READ: read entire 12 header bytes (expec)
Sep 30 19:07:32.107: TPLUS(00000012)/0/READ: socket event 1
Sep 30 19:07:32.107: TPLUS(00000012)/0/READ: read entire 18 bytes response
Sep 30 19:07:32.107: T+: Version 192 (0xC0), type 1, seq 4, encryption 1
Sep 30 19:07:32.107: T+: session_id 1018492586 (0x3CB4F6AA), dlen 6 (0x6)
Sep 30 19:07:32.107: T+: AUTHEN/REPLY status:1 flags:0x0 msg_len:0, data_len:0
Sep 30 19:07:32.107: T+: msg:
Sep 30 19:07:32.107: T+: data:
Sep 30 19:07:32.107: T+: End Packet
Sep 30 19:07:32.107: TPLUS(00000012)/0/31730500: Processing the reply packet
Sep 30 19:07:32.107: TPLUS: Received authen response status PASS (2)
Sep 30 19:07:32.111: AAA/AUTHOR (00000012): Method list id=0 not configured. Skr
1941-01#
1941-01#
1941-01#
1941-01#
Sep 30 19:07:38.627: AAA/AUTHOR: auth_need : user= 'cisco' ruser= '1941-01'rem_'
Sep 30 19:07:38.627: AAA: parse name=tty132 idb type=-1 tty=-1
Sep 30 19:07:38.627: AAA: name=tty132 flags=0x11 type=5 shelf=0 slot=0 adapter=0
Sep 30 19:07:38.627: AAA/MEMORY: create_user (0x296F9D2C) user='cisco' ruser='N')
Sep 30 19:07:38.627: AAA/AUTHEN/START (3968405663): port='tty132' list='' actioE
Sep 30 19:07:38.627: AAA/AUTHEN/START (3968405663): console enable - default to)
```

## TACACS+\_Over\_IPv6\_Transport\_Configuration\_Example

```
Sep 30 19:07:38.627: AAA/AUTHEN/START (3968405663): Method=ENABLE
Sep 30 19:07:38.627: AAA/AUTHEN (3968405663): status = GETPASS

! ---- incorrect enable password is entered

Sep 30 19:07:43.447: AAA/AUTHEN/CONT (3968405663): continue_login (user='(undef)
Sep 30 19:07:43.447: AAA/AUTHEN (3968405663): status = GETPASS
Sep 30 19:07:43.447: AAA/AUTHEN/CONT (3968405663): Method=ENABLE
Sep 30 19:07:43.451: AAA/AUTHEN(3968405663): password incorrect
Sep 30 19:07:43.451: AAA/AUTHEN (3968405663): status = FAIL
Sep 30 19:07:43.451: AAA/MEMORY: free_user (0x296F9D2C) user='NULL' ruser='NULL)
Sep 30 19:07:43.451: %SYS-5-PRIV_AUTH_FAIL: Authentication to privilege level 1)
1941-01#
1941-01#
1941-01#
Sep 30 19:07:48.487: AAA/AUTHOR: auth_need : user= 'cisco' ruser= '1941-01'rem_'
Sep 30 19:07:48.491: AAA: parse name=tty132 idb type=-1 tty=-1
Sep 30 19:07:48.491: AAA: name=tty132 flags=0x11 type=5 shelf=0 slot=0 adapter=0
Sep 30 19:07:48.491: AAA/MEMORY: create_user (0x313CD830) user='cisco' ruser='N)
Sep 30 19:07:48.491: AAA/AUTHEN/START (1229564639): port='tty132' list='' actioE
Sep 30 19:07:48.491: AAA/AUTHEN/START (1229564639): console enable - default to)
Sep 30 19:07:48.491: AAA/AUTHEN/START (1229564639): Method=ENABLE
Sep 30 19:07:48.491: AAA/AUTHEN (1229564639): status = GETPASS

! --- The correct enable password is entered this time

Sep 30 19:07:54.947: AAA/AUTHEN/CONT (1229564639): continue_login (user='(undef)
Sep 30 19:07:54.947: AAA/AUTHEN (1229564639): status = GETPASS
Sep 30 19:07:54.947: AAA/AUTHEN/CONT (1229564639): Method=ENABLE
Sep 30 19:07:54.951: AAA/AUTHEN (1229564639): status = PASS
Sep 30 19:07:54.951: AAA/MEMORY: free_user (0x313CD830) user='NULL' ruser='NULL)
1941-01#
```

## Show running-config

```
Current configuration : 2781 bytes
!
! Last configuration change at 18:55:35 UTC Fri Sep 30 2011 by ayourtch
version 15.2
service timestamps debug datetime msec
service timestamps log datetime msec
no service password-encryption
!
hostname 1941-01
!
boot-start-marker
boot system flash flash:/c1900-universalk9-mz.SPA.152-1.T
boot-end-marker
!
!
enable secret 5 $1$nJGe$kj6JHz6Inhq1UN883NX7n1
!
aaa new-model
!
!
aaa group server tacacs+ FOO
 server name FOO
!
aaa authentication login default local enable none
aaa authentication login FOO group FOO
aaa authentication login LCL local enable none
!
!
```

Show running-config

## TACACS+\_Over\_IPv6\_Transport\_Configuration\_Example

```
!  
!  
!  
aaa session-id common  
!  
!  
ipv6 unicast-routing  
ipv6 cef  
ip auth-proxy max-login-attempts 5  
ip admission max-login-attempts 5  
!  
!  
!  
ip dhcp pool INT2  
  network 192.168.2.0 255.255.255.0  
  dns-server 144.254.10.123 64.103.101.184 144.254.71.184  
!  
!  
no ip domain lookup  
ip domain name cisco.com  
ip cef  
!  
multilink bundle-name authenticated  
!  
crypto pki token default removal timeout 0  
!  
!  
license udi pid CISCO1941/K9 sn XXXXXXXXXX  
license boot module c1900 technology-package securityk9  
license boot module c1900 technology-package datak9  
!  
!  
username ayourtch privilege 15 password 0 cisco123  
!  
redundancy  
!  
!  
!  
!  
!  
!  
!  
!  
!  
!  
!  
!  
!  
!  
!  
!  
interface Embedded-Service-Engine0/0  
  no ip address  
  shutdown  
!  
interface GigabitEthernet0/0  
  no ip address  
  ip virtual-reassembly in  
  load-interval 30  
  duplex auto  
  speed auto  
  no cdp enable  
!  
interface GigabitEthernet0/1  
  ip address 192.168.2.1 255.255.255.0  
  ip nbar protocol-discovery
```

Show running-config

## TACACS+\_Over\_IPv6\_Transport\_Configuration\_Example

```
ip virtual-reassembly in
load-interval 30
duplex auto
speed auto
ipv6 address 2001:DB8::2/64
!
ip forward-protocol nd
!
no ip http server
no ip http secure-server
!
!
!
!
!
!
tacacs server FOO
address ipv6 2001:DB8::20C:1FF:FE02:304
key cisco123
port 4949
!
!
!
control-plane
!
!
!
line con 0
exec-timeout 0 0
line aux 0
line 2
no activation-character
no exec
transport preferred none
transport input all
transport output pad telnet rlogin lapb-ta mop udptn v120 ssh
stopbits 1
line vty 0 4
login authentication FOO
transport input ssh
line vty 5 100
login authentication FOO
transport input ssh
line vty 101 200
login authentication LCL
transport input telnet
!
scheduler allocate 20000 1000
end
```

## Related Information

[Technical Support & Documentation - Cisco Systems](#)