FAA San Diego Call Center

Cisco Gateway Setup

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Table of Contents

Executive Summary

The purpose of this document is to provide an overview of the Gateway configuration used in the IPCC environment This guide will address the areas of setup based on best practices provided from Cisco Systems with any modifications required for equipment deployment in the **FAA San Diego** environment.

With new hardware, even with the same part number, you may have revisions of the accompanying software that may affect this guide. Please contact AT&T if this happens and this document will be updated to reflect these changes.

It is also suggested to contact Cisco or log on to www.cisco.com and find the latest supported versions of the server setup software.

This guide has been designed to be usable by both an experienced IT engineer or one with less experience in the area of server setup. This document was designed to help the engineer through the many choices you have during setup to achieve a designated configuration for Cisco IPCC environment on a Windows Server 2003 operating system.

Requirements for the Gateway

1. System Power

    a. The power supplying the system must be able to support the server's requirements: Rated line voltage 100-127 VAC and 200-240 VAC & Rated input current 10A (100 VAC), 10A (120 VAC), and 5A (200 VAC)

    b. UPS protection is strongly suggested for this server if it will be in production, along with Windows 2003 agents to respond to an outage with a graceful shutdown.

2. HVAC & Operating environments

    a. The system should be set up in a cool, dry area for optimal operation. Range of 50° to 95° F (10° to 35° C) at 0 - 3000 feet (0 - 914.4 meters) with an altitude derating of 0.75° C per 1000 ft to 10,000 ft (3048 m)

    b. Cooling should be able to handle a BTU rating of BTU/hr 3390

    c. Maximum altitude 7000 ft (2133 m)

3. Input and Output

    a. Network Connection

        i. The Ethernet cable should be connected to an active network connection on a network switch.

        ii. Speed and Duplex **MUST** be set on both the server and switch to match (Not Auto). This deployment has been tested at 100/full and testing is continuing with 1000/full. At the time of this document, the gigabit/full has not been certified.

        iii. Prior to installing the server, you should collect what the IP address, Subnet Mask, Default Gateway, DNS Server, and WINS server will be.

        iv. All TCP/IP ports should be open and accessible to the client devices that they will be supporting; a more granular list is based on what application will be installed on the system.

Configuration of Gateway Defined

The following is a configuration for the Gateway – Most default items have been removed to reference

1. service nagle

    a. Nagle is a congestion control algorithm used to reduce the transmission of small packets. It's a bandwidth-saving feature for keystroke-based applications (such as Telnet). While the Cisco IOS turns off Nagle by default, you can enable it with the service nagle command.

2. service linenumber

    a. This command notifies the user of the router's or switch's async line number used at login. This can come in handy if you're having problems with your VTY line — it reminds you what line you're on. It even works on the console.

3. service sequence-numbers

    a. service sequence-numbers You can use the service sequence-numbers command to insert sequence numbers into log files. This can be important when log entries are coming really quickly. In fact, they can come so quickly that they appear at the same time.

4. ip domain name FAASDIPT.com

    a. Set the domain name for the system

5. ip host FAASDCMPUB 10.100.59.31

    a. Add the DNS Entries as backup to a DNS Server

6. multilink bundle-name authenticated

    a. You can change the criteria that is selected for naming a multilink bundle if you issue the multilink bundle

7. voice call send-alert

    a. To enable the terminating gateway to send an alert message instead of a progress message after it receives a call setup message, use the voice call send-alert command in global configuration mode.

8. voice rtp send-recv

    a. To establish a two-way voice path when the Real-Time Transport Protocol (RTP) channel is opened, use the voice rtp send-recv command in global configuration mode

9. voice class codec 100

    a. The following example shows configuration for voice class codec 10 with two audio codec preferences and three video codec preferences

10. service cvp-survivability flash:survivability.tcl

    a. paramspace english language en

      b. `paramspace english index 0`

      c. `paramspace english location flash`

      d. `paramspace english prefix en`

11. `service cvperror flash:cvperror.tcl`

      a. `paramspace english language en`

      b. `paramspace english index 0`

      c. `paramspace english location flash`

      d. `paramspace english prefix en`

12. `service ringtone flash:ringtone.tcl`

      a. `paramspace english language en`

      b. `paramspace english index 0`

      c. `paramspace english location flash`

      d. `paramspace english prefix en`

13. `service handoff flash:handoff.tcl`

      a. `paramspace english language en`

      b. `paramspace english index 0`

      c. `paramspace english location flash:`

      d. `paramspace english prefix en`

14. `archive`

      a. To enter archive configuration mode, use the archive command in global configuration mode.

15. `log config`

      a. Enters configuration change logger configuration mode.

16. `hidekeys`

      a. Suppresses the display of password information in configuration log files. Note Enabling the hidekeys command increases security by preventing password information from being displayed in configuration log files.

Full Gateway Configuration

The following is a full configuration and has not been finalized at the time of document.

```
Current configuration : 6463 bytes
!
! Last configuration change at 21:15:18 DLS Tue Aug 26 2008 by ohd
! NVRAM config last updated at 23:38:35 DLS Mon Aug 25 2008 by ohd
!
version 12.4
service nagle
service timestamps debug datetime msec localtime
service timestamps log datetime msec localtime
service password-encryption
service linenumber
service sequence-numbers
no service dhcp
!
hostname FAASDUCCVGW05
!
boot-start-marker
boot system flash:c3845-ipvoice-mz.124-15.T1.bin
boot-end-marker
!
card type t1 0 0
card type t1 0 1
card type t1 0 2
card type t1 0 3
logging buffered 4096 notifications
enable secret 5 $1$8kUH$qcZtnc1ZZk5uaHDXwJlOu0
enable password 7 02050D480809
!
aaa new-model
```

```
aaa group server tacacs+ access
!
aaa authentication password-prompt Enter_FAA SAN DIEGO_Secret_Password:
aaa authentication login default group tacacs+ line
aaa authentication enable default group tacacs+ enable
aaa authorization exec default group tacacs+ if-authenticated
!
aaa session-id common
clock timezone receive 3
clock summer-time DLS recurring
no network-clock-participate wic 0
no network-clock-participate wic 1
no network-clock-participate wic 2
no network-clock-participate wic 3
ip cef
!
no ip domain lookup
ip domain name FAA SAN DIEGOIPT.com
ip host FAASDCMPUB 10.100.59.31
ip host FAASDCMSUB01 10.100.59.137
ip host DRCMSUB02 10.200.1.121
multilink bundle-name authenticated
!
isdn switch-type primary-ni
voice-card 0
 no dspfarm
password encryption aes
!
voice call send-alert
voice rtp send-recv
!
voice service voip
 fax protocol t38 ls-redundancy 0 hs-redundancy 0 fallback none
 h323
```

```
 modem passthrough nse codec g711ulaw
!
!
voice class codec 100
 codec preference 1 g711ulaw
 codec preference 2 g729r8
 codec preference 3 g729br8
!
application
  service cvp-survivability flash:survivability.tcl
  paramspace english language en
  paramspace english index 0
  paramspace english location flash
  paramspace english prefix en
  !
  service cvperror flash:cvperror.tcl
  paramspace english language en
  paramspace english index 0
  paramspace english location flash
  paramspace english prefix en
  !
  service ringtone flash:ringtone.tcl
  paramspace english language en
  paramspace english index 0
  paramspace english location flash
  paramspace english prefix en
  !
  service handoff flash:handoff.tcl
  paramspace english language en
  paramspace english index 0
  paramspace english location flash:
  paramspace english prefix en
!
  archive
```

```
log config
 hidekeys
!
 controller T1 0/0/0
 framing esf
 linecode b8zs
!
controller T1 0/0/1
 framing esf
 linecode b8zs
!
controller T1 0/1/0
 framing esf
 linecode b8zs
!
controller T1 0/1/1
 framing esf
 linecode b8zs
!
controller T1 0/2/0
 framing esf
 linecode b8zs
!
controller T1 0/2/1
 framing esf
 linecode b8zs
!
controller T1 0/3/0
 framing esf
 linecode b8zs
!
controller T1 0/3/1
 framing esf
 linecode b8zs
```

```
!
interface Loopback0
 description FAASDUCCVGW05 Loopback
 ip address 10.100.99.40 255.255.255.255
 no ip redirects
 h323-gateway voip interface
 h323-gateway voip id FAASDUCCZONE1 ipaddr 10.10.99.30 1719 priority 120
 h323-gateway voip id FAASDUCCZONE2 ipaddr 10.100.0.20 1719
 h323-gateway voip h323-id FAASDUCCVGW05
 h323-gateway voip tech-prefix 1#
 h323-gateway voip tech-prefix 2#
 h323-gateway voip bind srcaddr 10.100.99.40
!
interface GigabitEthernet0/0
 description $ETH-LAN$$ETH-SW-LAUNCH$$INTF-INFO-GE 0/0$
 ip address 10.100.59.120 255.255.255.128
 duplex full
 speed 100
 media-type rj45
!
interface GigabitEthernet0/1
 ip address 10.100.59.220 255.255.255.128
 shutdown
 duplex full
 speed 100
 media-type rj45
!
router ospf 100
 log-adjacency-changes
 network 10.100.99.40 0.0.0.0 area 10.100.28.146
 network 10.100.59.0 0.0.0.127 area 10.100.28.146
 network 10.100.59.128 0.0.0.127 area 10.100.28.146
 maximum-paths 6
!
```

```
ip local policy route-map nachi-worm
!
ip flow-top-talkers
 top 20
 sort-by bytes
!
no ip http server
ip http access-class 23
ip http authentication local
ip http timeout-policy idle 60 life 86400 requests 10000
ip rtcp report interval 3000
ip tacacs source-interface Loopback0
!
logging history size 100
logging history errors
logging trap debugging
logging source-interface Loopback0
access-list 23 permit 10.100.10.0 0.0.0.7
access-list 90 deny    0.0.0.0
access-list 90 permit any
access-list 198 permit tcp any host 10.100.94.218 eq 69 log
access-list 198 permit udp any host 10.100.94.218 eq tftp log
access-list 198 permit tcp any host 10.100.0.70 eq 69 log
access-list 198 permit udp any host 10.100.0.70 eq tftp log
access-list 198 deny    tcp any any eq 69 log
access-list 198 deny    udp any any eq tftp log
access-list 198 deny    tcp any any eq 707 log
access-list 198 deny    udp any any eq 707 log
access-list 198 deny    tcp any any eq 4444 log
access-list 198 deny    udp any any eq 4444 log
access-list 198 permit ip any any
access-list 199 permit icmp any any echo
access-list 199 permit icmp any any echo-reply
access-list 200 permit 0x0000 0x0D0D
```

```
snmp-server community config view v1default RO
snmp-server community bbq RO
snmp-server community zorida RW
snmp-server enable traps snmp authentication linkdown linkup coldstart
warmstart
snmp-server enable traps tty
snmp-server enable traps config
snmp-server host 10.100.0.105 config  snmp
route-map nachi-worm permit 5
 match ip address 199
 match length 92 92
 set interface Null0
!
route-map nachi-worm permit 10
 match ip address 199
 match length 92 92
 set interface Null0
!
tacacs-server host 10.100.6.204
tacacs-server host 10.200.255.112
tacacs-server timeout 10
tacacs-server directed-request
tacacs-server key 7 0xxxxxxxxxxxx4
!
control-plane
!
 dial-peer voice 100 voip
 preference 1
 destination-pattern 7000
 voice-class codec 100
 session target ras
 tech-prefix 2#
 dtmf-relay rtp-nte h245-signal h245-alphanumeric
 no vad
```

```
!
dial-peer voice 8 pots
 description Incoming Pots DP for CVP Survivability
 service cvp-survivability
 incoming called-number .
 direct-inward-dial
!
!
gateway
 media-inactivity-criteria all
 timer receive-rtcp 5
 timer receive-rtp 1200
!
line con 0
 exec-timeout 360 0
 password 7 0xxxxxxxxxxxxxxx9
 stopbits 1
line aux 0
 stopbits 1
line vty 0 4
 exec-timeout 15 0
 password 7 0xxxxxxxxxxxxxxx9
line vty 5 15
 access-class 23 in
 exec-timeout 15 0
 privilege level 15
 password 7 1xxxxxxxxxxxxxxx8
!
scheduler allocate 20000 1000
ntp clock-period 17180303
ntp server 10.100.119.84
ntp server 10.100.119.83
```

This Configuration will change as needed