



智能业务平台

中小企业

协作

基础配置文件指南

● ● ● 智能业务平台

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前言

本指南的目标受众

Cisco®智能业务平台(IBA)指南主要面向承担以下职务的人员：

- 需要实施解决方案时的标准规范的系统工程师
- 需要撰写思科IBA实施项目工作说明书的项目经理
- 需要销售新技术或撰写实施文档的销售合作伙伴
- 需要课堂讲授或在职培训材料的培训人员

一般来说，您也可以将思科IBA指南作为工程师之间技术交流、项目实施经验分享的一指导文件，或利用它更好地规划项目成本预算和项目工作范围。

版本系列

思科将定期对IBA指南进行更新和修订。在开发新的思科IBA指南系列时，我们将会对其进行整体评测。为确保思科IBA指南中各个设计之间的兼容性，您应当使用同一系列中的设计指南文档。

所有思科IBA指南的封面和每页的左下角均标有指南系列的名称。我们以某系列指南发布时的年份和月份来对该系列命名，如下所示：

年 月 系列

例如，我们把于2011年8月发布的系列指南命名为“2011年8月系列”。

您可以在以下网址查看最新的IBA指南系列：

客户访问：<http://www.cisco.com/go/cn/iba>

合作伙伴访问：<http://www.cisco.com/go/cn/iba>

如何阅读命令

许多思科IBA指南详细说明了思科网络设备的配置步骤，这些设备运行着Cisco IOS、Cisco NX-OS或其他需要通过命令行界面(CLI)进行配置的操作系统。下面描述了系统命令的指定规则，您需要按照这些规则来输入命令。

在CLI中输入的命令如下所示：

```
configure terminal
```

为某个变量指定一个值的命令如下所示：

```
ntp server 10.10.48.17
```

包含您必须定义的变量的命令如下所示：

```
class-map [highest class name]
```

以交互示例形式显示的命令（如脚本和包含提示的命令）如下所示：

```
Router# enable
```

包含自动换行的长命令以下划线表示。应将其作为一个命令进行输入：

```
wrr-queue random-detect max-threshold 1 100 100 100 100 100  
100 100 100
```

系统输出或设备配置文件中值得注意的部分以高亮方式显示，如下所示：

```
interface Vlan64  
ip address 10.5.204.5 255.255.255.0
```

问题和评论

如需要了解更多有关思科IBA智能业务平台的信息，请访问

<http://www.cisco.com/go/cn/iba>

如需要注册快速报价工具（QPT），请访问

<http://www.cisco.com/go/qpt>

如果您希望在出现新评论时获得通知，我们可以发送RSS信息。

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文中使用的任何互联网协议（IP）地址均非真实地址。文中的任何举例、命令显示输出和图示仅供说明之用。在图示中使用任何真实IP 地址均属无意和巧合。

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本IBA指南的内容

关于IBA

思科IBA能帮助您设计和快速部署一个全服务企业网络。IBA系统是一种规范式设计，即购即用，而且具备出色的可扩展性和灵活性。

思科IBA在一个综合解决方案中集成了局域网、广域网、无线、安全、数据中心、应用优化和统一通信技术，并对其进行了严格测试，确保能够实现无缝协作。IBA采用的组件式方法简化了在采用多种技术时通常需要进行系统集成工作，使您可以随意选择能够满足企业需求的解决方案，而不必担心技术复杂性方面的问题。

了解更多信息，请参阅《思科IBA使用入门》文档：

http://www.cisco.com/en/US/docs/solutions/Enterprise/Borderless_Networks/Smart_Business_Architecture/SBA_Getting_Started.pdf

关于本指南

作为一个综合性参考文档，本配置文件指南详细介绍了思科IBA部署指南中实施的全部网络设备配置。

在成功部署路线图上，本指南是其所依据的部署指南的配置文件，如下所示。



成功部署路线图

为确保您能够按照本指南中的设计成功完成部署，您应当阅读本指南所依据的所有相关指南——即上面路线图中本指南左侧的所有指南。所有以本指南为依据的指南都在右侧。

如需要了解更多有关思科IBA智能业务平台的信息，请访问：

<http://www.cisco.com/go/cn/iba>

如需要注册快速报价工具（QPT），请访问：

<http://www.cisco.com/go/qpt>

简介

对于服务于拥有多达2500名联网用户的客户的合作伙伴，思科设计了一种即购即用的部署方式，它简单、快速、经济、可扩展且十分灵活。我们的设计令它非常易用 — 易于配置、部署和管理。

虽然架构本身具有广度和深度方面的复杂性，但这种部署方式却非常简单。根据许多客户和合作伙伴的反馈意见，思科已经开发出了一个强大的网络基础，它提供了一个灵活的平台，无需重新设计，就能支持更多网络或用户服务。

本指南为面向中小企业的IBA无边界网络基础设计中使用的产品提供了可用的配置文件。它包括以下配置文件：

- 局域网模块
 - 局域网合并核心层和分布层
 - 服务器机房
 - 局域网接入
- 广域网模块
 - 广域网头端
 - 广域网远程站点
- 安全模块
- 服务器负载均衡模块

本指南未包含那些带有基于浏览器的图形配置工具的产品的配置文件。请参考思科网站上的配套《思科中小企业IBA智能业务平台无边界网络基础部署指南》，来了解关于这些产品配置的逐步说明。

请参考附录A，获取实验室测试本设计时所用产品的完整列表。

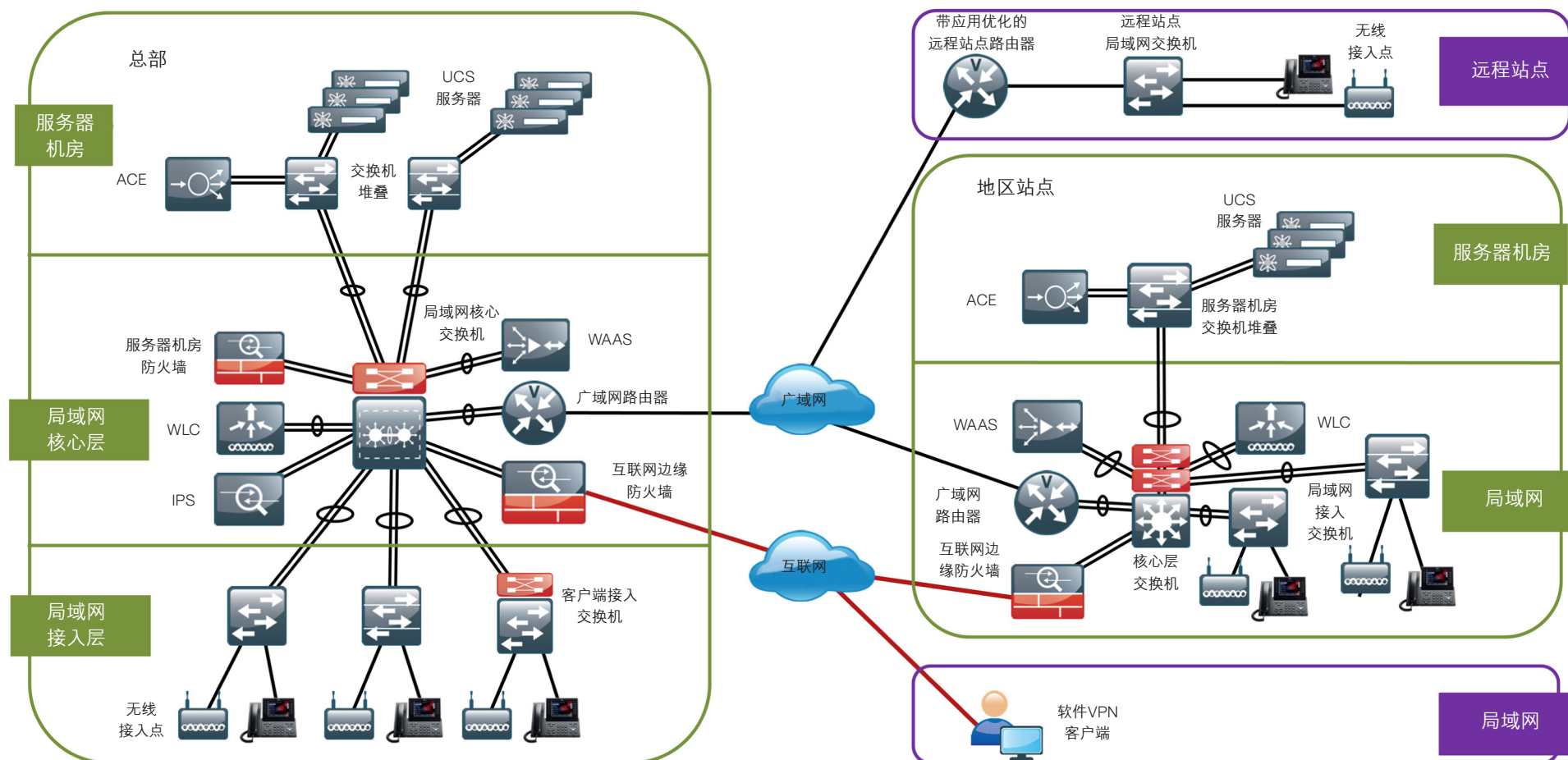


技术提示

实际设置和数值将取决于您当前的网络配置。在提交所有设置和配置变更前请仔细进行检查。

图1示出了部署了所有基础模块的智能业务平台基础设计。图中包括UCS服务器和IP电话，但是无边界网络(BN)基础部署指南没有涉及这些组件的配置。

图 1. 网络架构基准



局域网核心层

本指南为局域网核心交换机提供了三个配置选项，按照以下顺序：

1. Cisco Catalyst 3750X交换机堆叠
2. Cisco Catalyst 4507R Chassis-Based交换机
3. Cisco Catalyst 6504 Virtual Switch System Pair（虚拟交换系统对）

局域网核心，Cisco Catalyst 3750X交换机堆叠

Cisco Catalyst 3750X是初级规模IBA中小企业无边界网络基础架构的核心。请注意10.6.0.0 IP地址前缀，表示在中小企业500设计中配置的设备。为了缩短配置列表的长度，未在我们的验证实验室中配置的交换机端口没有在以下输出结果中显示。

```
version 15.0
no service pad
service timestamps debug datetime msec
service timestamps log datetime msec
service password-encryption
!
hostname C3750X
!
boot-start-marker
boot-end-marker
!
!
enable secret 5 ![removed]
!
username admin privilege 15 password 7 ![removed]
no aaa new-model
clock timezone PST -8 0
clock summer-time PDT recurring
switch 1 provision ws-c3750x-24s
```

```
switch 2 provision ws-c3750x-24s
stack-mac persistent timer 0
system mtu routing 1500
ip routing
!
ip dhcp excluded-address 10.6.0.1 10.6.0.11
ip dhcp excluded-address 10.6.2.1 10.6.2.11
ip dhcp excluded-address 10.6.16.1 10.6.16.11
ip dhcp excluded-address 10.6.20.1 10.6.20.11
!
ip dhcp pool HQ_Wired_Data
network 10.6.0.0 255.255.255.0
default-router 10.6.0.1
domain-name cisco.local
dns-server 10.6.48.10
!
ip dhcp pool HQ_Wired_Voice
network 10.6.2.0 255.255.255.0
default-router 10.6.2.1
domain-name cisco.local
dns-server 10.6.48.10
!
ip dhcp pool HQ_Wireless_Data
network 10.6.16.0 255.255.252.0
default-router 10.6.16.1
domain-name cisco.local
dns-server 10.6.48.10
!
ip dhcp pool HQ_Wireless_Voice
network 10.6.20.0 255.255.252.0
default-router 10.6.20.1
domain-name cisco.local
dns-server 10.6.48.10
!
!
ip domain-name cisco.local
ip name-server 10.6.48.10
```

```

ip multicast-routing distributed
vtp mode transparent
udld enable

!
mls qos map policed-dscp 0 10 18 to 8
mls qos map cos-dscp 0 8 16 24 32 46 48 56
mls qos srr-queue input bandwidth 70 30
mls qos srr-queue input threshold 1 80 90
mls qos srr-queue input priority-queue 2 bandwidth 30
mls qos srr-queue input cos-map queue 1 threshold 2 3
mls qos srr-queue input cos-map queue 1 threshold 3 6 7
mls qos srr-queue input cos-map queue 2 threshold 1 4
mls qos srr-queue input dscp-map queue 1 threshold 2 24
mls qos srr-queue input dscp-map queue 1 threshold 3 48 49 50 51
52 53 54 55
mls qos srr-queue input dscp-map queue 1 threshold 3 56 57 58 59
60 61 62 63
mls qos srr-queue input dscp-map queue 2 threshold 3 32 33 40 41
42 43 44 45
mls qos srr-queue input dscp-map queue 2 threshold 3 46 47
mls qos srr-queue output cos-map queue 1 threshold 3 4 5
mls qos srr-queue output cos-map queue 2 threshold 1 2
mls qos srr-queue output cos-map queue 2 threshold 2 3
mls qos srr-queue output cos-map queue 2 threshold 3 6 7
mls qos srr-queue output cos-map queue 3 threshold 3 0
mls qos srr-queue output cos-map queue 4 threshold 3 1
mls qos srr-queue output dscp-map queue 1 threshold 3 32 33 40 41
42 43 44 45
mls qos srr-queue output dscp-map queue 1 threshold 3 46 47
mls qos srr-queue output dscp-map queue 2 threshold 1 16 17 18 19
20 21 22 23
mls qos srr-queue output dscp-map queue 2 threshold 1 26 27 28 29
30 31 34 35
mls qos srr-queue output dscp-map queue 2 threshold 1 36 37 38 39
mls qos srr-queue output dscp-map queue 2 threshold 2 24
mls qos srr-queue output dscp-map queue 2 threshold 3 48 49 50 51

```

```

52 53 54 55
mls qos srr-queue output dscp-map queue 2 threshold 3 56 57 58 59
60 61 62 63
mls qos srr-queue output dscp-map queue 3 threshold 1 8 9 11 13
15
mls qos srr-queue output dscp-map queue 3 threshold 2 10 12 14
mls qos queue-set output 1 threshold 1 100 100 50 200
mls qos queue-set output 1 threshold 2 125 125 100 400
mls qos queue-set output 1 threshold 3 100 100 100 400
mls qos queue-set output 1 threshold 4 60 150 50 200
mls qos queue-set output 1 buffers 15 25 40 20
mls qos
!
crypto pki trustpoint TP-self-signed-2103206144
    enrollment selfsigned
    subject-name cn=IOS-Self-Signed-Certificate-2103206144
    revocation-check none
    rsakeypair TP-self-signed-2103206144
!
!
crypto pki certificate chain TP-self-signed-2103206144
    certificate self-signed 01
!
!
!
!
spanning-tree mode rapid-pvst
spanning-tree extend system-id
spanning-tree vlan 2-4094 priority 24576
!
!
!
port-channel load-balance src-dst-ip
!
vlan internal allocation policy ascending
!
vlan 100

```

```

    name HQ-Access-Data
!
vlan 102
    name HQ-Access-Voice
!
vlan 115
    name Management
!
vlan 116
    name Wireless-Data
!
vlan 120
    name Wireless-Voice
!
vlan 127
    name Core-IE-ASA
!
vlan 132
    name Core-WAN
!
vlan 148
    name Server-VLAN-1
!
vlan 149
    name Server-VLAN-2
!
vlan 150
    name BN-Services
!
vlan 999
    name Anti-VLAN-Hopping
!
vlan 1144
    name Wireless-Guest
!
ip ssh version 2
!

```

```

!
!
!
macro name EgressQoS
mls qos trust dscp
queue-set 2
srr-queue bandwidth share 1 30 35 5
priority-queue out
@
!
!
interface Loopback1
    ip address 10.6.15.254 255.255.255.255
!
interface Loopback2
    ip address 10.6.15.252 255.255.255.255
    ip pim sparse-mode
!
interface Port-channel1
    description A2960S
    switchport trunk encapsulation dot1q
    switchport trunk native vlan 999
    switchport trunk allowed vlan 100,102,115
    switchport mode trunk
!
interface Port-channel7
    description SR-3560X
    switchport trunk encapsulation dot1q
    switchport trunk native vlan 999
    switchport trunk allowed vlan 115,148-150
    switchport mode trunk
!
interface Port-channel21
    description WLC-5508-1
    switchport trunk encapsulation dot1q
    switchport trunk native vlan 999
    switchport trunk allowed vlan 115,116,120,1144

```

```

switchport mode trunk
!
interface Port-channel23
description WAN router
switchport access vlan 132
switchport mode access
logging event link-status
spanning-tree portfast
!
interface FastEthernet0
no ip address
no ip route-cache
shutdown
!
interface GigabitEthernet1/0/1
description A2960S
switchport trunk encapsulation dot1q
switchport trunk native vlan 999
switchport trunk allowed vlan 100,102,115
switchport mode trunk
srr-queue bandwidth share 1 30 35 5
queue-set 2
priority-queue out
mls qos trust dscp
macro description EgressQoS
channel-protocol lacp
channel-group 1 mode active
!
interface GigabitEthernet1/0/7
description SR-3560X
switchport trunk encapsulation dot1q
switchport trunk native vlan 999
switchport trunk allowed vlan 115,148-150
switchport mode trunk
srr-queue bandwidth share 1 30 35 5
queue-set 2
priority-queue out

```

```

mls qos trust dscp
macro description EgressQoS
channel-protocol lacp
channel-group 7 mode active
!
interface GigabitEthernet1/0/19
description ie-ids-a
switchport access vlan 115
switchport mode access
!
interface GigabitEthernet1/0/21
description WLC-5508-1
switchport trunk encapsulation dot1q
switchport trunk native vlan 999
switchport trunk allowed vlan 115,116,120,1144
switchport mode trunk
srr-queue bandwidth share 1 30 35 5
queue-set 2
priority-queue out
mls qos trust dscp
macro description EgressQoS
spanning-tree portfast
spanning-tree link-type point-to-point
channel-group 21 mode on
!
interface GigabitEthernet1/0/23
description WAN Router
switchport access vlan 132
switchport mode access
no ip address
logging event link-status
channel-group 23 mode on
!
interface GigabitEthernet1/0/24
description IE-ASA5510a
switchport trunk encapsulation dot1q
switchport trunk allowed vlan 127,1144

```

```

switchport mode trunk
!
interface GigabitEthernet2/0/1
description A2960S
switchport trunk encapsulation dot1q
switchport trunk native vlan 999
switchport trunk allowed vlan 100,102,115
switchport mode trunk
srr-queue bandwidth share 1 30 35 5
queue-set 2
priority-queue out
mls qos trust dscp
macro description EgressQoS
channel-protocol lacp
channel-group 1 mode active
!
interface GigabitEthernet2/0/7
description SR-3560X
switchport trunk encapsulation dot1q
switchport trunk native vlan 999
switchport trunk allowed vlan 115,148-150
switchport mode trunk
srr-queue bandwidth share 1 30 35 5
queue-set 2
priority-queue out
mls qos trust dscp
macro description EgressQoS
channel-protocol lacp
channel-group 7 mode active
!
interface GigabitEthernet2/0/19
description ie-ids-b
switchport access vlan 115
switchport mode access
!
interface GigabitEthernet2/0/20
description hq-ids

```

```

switchport access vlan 115
switchport mode access
!
interface GigabitEthernet2/0/21
description WLC-5508-1
switchport trunk encapsulation dot1q
switchport trunk native vlan 999
switchport trunk allowed vlan 115,116,120,1144
switchport mode trunk
srr-queue bandwidth share 1 30 35 5
queue-set 2
priority-queue out
mls qos trust dscp
macro description EgressQoS
spanning-tree portfast
spanning-tree link-type point-to-point
channel-group 21 mode on
!
interface GigabitEthernet2/0/22
description IPS4240 G0/0
no switchport
no ip address
!
interface GigabitEthernet2/0/23
description WAN Router
switchport access vlan 132
switchport mode access
no ip address
logging event link-status
channel-group 23 mode on
!
interface GigabitEthernet2/0/24
description IE-ASA5510b
switchport trunk encapsulation dot1q
switchport trunk allowed vlan 127,1144
switchport mode trunk
!

```

```

interface Vlan1
  no ip address
  shutdown
!
interface Vlan100
  description Wired Data
  ip address 10.6.0.1 255.255.255.0
  ip pim sparse-mode
!
interface Vlan102
  description Wired Voice
  ip address 10.6.2.1 255.255.255.0
  ip pim sparse-mode
!
interface Vlan115
  description Management
  ip address 10.6.15.1 255.255.255.128
!
interface Vlan116
  description Wireless Data
  ip address 10.6.16.1 255.255.252.0
  ip pim sparse-mode
!
interface Vlan120
  description Wireless Voice
  ip address 10.6.20.1 255.255.252.0
  ip pim sparse-mode
!
interface Vlan127
  description Internet Edge
  ip address 10.6.27.1 255.255.255.128
  ip pim sparse-mode
!
interface Vlan132
  description WAN Services
  ip address 10.10.32.1 255.255.255.128
  ip pim sparse-mode

```

```

!
interface Vlan148
  description Server VLAN 1
  ip address 10.6.48.1 255.255.255.0
  ip pim sparse-mode
!
interface Vlan149
  description Server VLAN 2
  ip address 10.6.49.1 255.255.255.0
  ip pim sparse-mode
!
interface Vlan150
  description BN Services
  ip address 10.6.50.1 255.255.255.0
  ip pim sparse-mode
!
!
router eigrp 1
  network 10.6.0.0 0.1.255.255
  passive-interface default
  no passive-interface Vlan127
  no passive-interface Vlan132
  no passive-interface Vlan153
  eigrp router-id 10.6.15.254
!
no ip classless
!
ip http server
ip http secure-server
!
ip pim rp-address 10.6.15.252 10
!
logging esm config
access-list 10 permit 239.1.0.0 0.0.255.255
!
snmp-server community cisco RO
snmp-server community cisco123 RW

```

```

!
!
line con 0
line vty 0 4
  exec-timeout 0 0
  login local
  transport input ssh
line vty 5 15
  exec-timeout 0 0
  login local
  transport input ssh
!
!
monitor session 1 source interface Po23
monitor session 1 destination interface Gi2/0/22
ntp server 10.6.48.17
end

```

局域网核心，Cisco Catalyst 4507R交换机

Cisco Catalyst 4507R是中等规模的IBA中小企业无边界网络基础架构的核心。请注意10.8.0.0 IP地址前缀，表示在中小企业1000设计中所配置的设备。为了缩短配置列表的长度，未在我们的验证实验室中配置的交换机端口没有在以下输出结果中显示。

```

version 15.0
no service pad
service timestamps debug datetime msec
service timestamps log datetime msec
service password-encryption
service compress-config
!
hostname C4507
!
boot-start-marker
boot-end-marker
!
enable secret 5 ![removed]
!

```

```

username admin privilege 15 password 7 ![removed]
!
macro name AccessEdgeQoS
  qos trust device cisco-phone
  service-policy input CISCOPHONE-POLICY
  service-policy output 1P7Q1T
@
macro name EgressQoS
  service-policy output 1P7Q1T
@
!
no aaa new-model
clock timezone PST -8
clock summer-time PDT recurring
udld enable

ip subnet-zero
ip domain-name cisco.local
ip name-server 10.8.48.10
ip vrf Mgmt-vrf
!
ip multicast-routing
!
!
vtp mode transparent
!
!
crypto pki trustpoint TP-self-signed-144616
  enrollment selfsigned
  subject-name cn=IOS-Self-Signed-Certificate-144616
  revocation-check none
  rsakeypair TP-self-signed-144616
!
crypto pki trustpoint CISCO_IDEVID_SUDI
  revocation-check none
  rsakeypair CISCO_IDEVID_SUDI
!

```

```

crypto pki trustpoint CISCO_IDEVID_SUDIO
  revocation-check none
!
!
crypto pki certificate chain TP-self-signed-144616
  certificate self-signed 01
    ![removed]
  quit
crypto pki certificate chain CISCO_IDEVID_SUDI
  certificate 111187F4000000162151
    ![removed]
  quit
  certificate ca 6A6967B30000000000003
    ![removed]
  quit
crypto pki certificate chain CISCO_IDEVID_SUDIO
  certificate ca 5FF87B282B54DC8D42A315B568C9ADFF
    ![removed]
  quit
power redundancy-mode redundant
!
!
!
!
spanning-tree mode rapid-pvst
spanning-tree extend system-id
spanning-tree vlan 2-4094 priority 24576
!
redundancy
  mode sso
!
vlan internal allocation policy ascending
!
vlan 100
  name wired-data
!
vlan 102

```

```

  name wired-voice
!
vlan 115
  name management
!
vlan 116
  name wireless-data
!
vlan 120
  name wireless-voice
!
vlan 127
  name core-ie-asa
!
vlan 132
  name core-wan
!
vlan 148
  name server-vlan-1
!
vlan 150
  name bn-services
!
vlan 153
  name server-room-outside
!
vlan 154
  name server-room-inside-1
!
vlan 155
  name server-room-inside-2
!
vlan 999
  name anti-vlan-hopping
!
vlan 1160
  name wireless-guest

```

```

!
ip ssh version 2
!
class-map match-any MULTIMEDIA-STREAMING-QUEUE
    match dscp af31 af32 af33
class-map match-any CONTROL-MGMT-QUEUE
    match dscp cs7
    match dscp cs6
    match dscp cs3
    match dscp cs2
class-map match-any TRANSACTIONAL-DATA-QUEUE
    match dscp af21 af22 af23
class-map match-any SCAVENGER-QUEUE
    match dscp cs1
class-map match-any MULTIMEDIA-CONFERENCING-QUEUE
    match dscp af41 af42 af43
class-map match-any VOIP_SIGNAL_CLASS
    match cos 3
class-map match-any BULK-DATA-QUEUE
    match dscp af11 af12 af13
class-map match-any VOIP_DATA_CLASS
    match cos 5
class-map match-any PRIORITY-QUEUE
    match dscp ef
    match dscp cs5
    match dscp cs4
!
policy-map CISCOPHONE-POLICY
    class VOIP_DATA_CLASS
        set dscp ef
        police cir 128000 bc 8000
        conform-action transmit
        exceed-action drop
    class VOIP_SIGNAL_CLASS
        set dscp cs3
        police cir 32000 bc 8000
        conform-action transmit

```

```

        exceed-action drop
    class class-default
        set dscp default
        police cir 10000000 bc 8000
        conform-action transmit
        exceed-action set-dscp-transmit cs1
policy-map 1P7Q1T
    class PRIORITY-QUEUE
        priority
    class CONTROL-MGMT-QUEUE
        bandwidth remaining percent 10
    class MULTIMEDIA-CONFERENCING-QUEUE
        bandwidth remaining percent 10
    class MULTIMEDIA-STREAMING-QUEUE
        bandwidth remaining percent 10
    class TRANSACTIONAL-DATA-QUEUE
        bandwidth remaining percent 10
        dbl
    class BULK-DATA-QUEUE
        bandwidth remaining percent 4
        dbl
    class SCAVENGER-QUEUE
        bandwidth remaining percent 1
    class class-default
        bandwidth remaining percent 25
        dbl
!
!
!
interface Loopback1
    ip address 10.8.15.254 255.255.255.255
!
interface Loopback2
    ip address 10.8.15.252 255.255.255.255
    ip pim sparse-mode
!
interface Port-channel1

```

```

description SR3750X
switchport
switchport trunk allowed vlan 115,148-150,154,155
switchport mode trunk
!
interface Port-channel11
description A2960S
switchport
switchport trunk native vlan 999
switchport trunk allowed vlan 100,102,115
switchport mode trunk
!
interface Port-channel12
description A3750X
switchport
switchport trunk native vlan 999
switchport trunk allowed vlan 100,102,115
switchport mode trunk
!
interface Port-channel32
description WAN Router
switchport
    switchport access vlan 132
    switchport mode access
    spanning-tree portfast
!
interface Port-channel40
description WLC-1
switchport
switchport trunk native vlan 999
switchport trunk allowed vlan 115,116,120,1160
switchport mode trunk
!
interface FastEthernet1
ip vrf forwarding Mgmt-vrf
no ip address
shutdown

```

```

speed auto
duplex auto
!
interface TenGigabitEthernet1/1
description SR3750X
switchport trunk allowed vlan 115,148-150,154,155
switchport mode trunk
macro description EgressQoS
channel-protocol lacp
channel-group 1 mode active
service-policy output 1P7Q1T
!
interface TenGigabitEthernet1/11
description A2960S
switchport trunk native vlan 999
switchport trunk allowed vlan 100,102,115
switchport mode trunk
macro description EgressQoS
channel-protocol lacp
channel-group 11 mode active
service-policy output 1P7Q1T
!
interface TenGigabitEthernet1/12
description A3750X
switchport trunk native vlan 999
switchport trunk allowed vlan 100,102,115
switchport mode trunk
macro description EgressQoS
channel-protocol lacp
channel-group 12 mode active
service-policy output 1P7Q1T
!
interface TenGigabitEthernet2/1
description SR3750X
switchport trunk allowed vlan 115,148-150,154,155
switchport mode trunk
macro description EgressQoS

```

```

channel-protocol lacp
channel-group 1 mode active
service-policy output 1P7Q1T
!
interface TenGigabitEthernet2/11
description A2960S
switchport trunk native vlan 999
switchport trunk allowed vlan 100,102,115
switchport mode trunk
macro description EgressQoS
channel-protocol lacp
channel-group 11 mode active
service-policy output 1P7Q1T
!
interface TenGigabitEthernet2/12
description A3750X
switchport trunk native vlan 999
switchport trunk allowed vlan 100,102,115
switchport mode trunk
macro description EgressQoS
channel-protocol lacp
channel-group 12 mode active
service-policy output 1P7Q1T
!
interface GigabitEthernet6/40
description WLC-1
switchport trunk native vlan 999
switchport trunk allowed vlan 115,116,120,1160
switchport mode trunk
macro description EgressQoS
channel-protocol lacp
channel-group 40 mode active
service-policy output 1P7Q1T
!
interface GigabitEthernet6/41
!
interface GigabitEthernet6/42

```

```

description SR-ASA5540a AIP-SSM mgmt
switchport access vlan 115
switchport mode access
!
interface GigabitEthernet6/43
description SR-ASA5540a outside
switchport access vlan 153
switchport mode access
!
interface GigabitEthernet6/44
description SR-ASA5540a Secure Subnets
switchport trunk allowed vlan 154,155
switchport mode trunk
!
interface GigabitEthernet6/46
description WAN-ISR3925
switchport
switchport access vlan 132
switchport mode access
macro description EgressQoS
channel-group 32 mode on
service-policy output 1P7Q1T
!
interface GigabitEthernet6/47
description IE-ASA5520a AIP-SSM mgmt
switchport access vlan 115
switchport mode access
!
interface GigabitEthernet6/48
description IE-ASA5520a
switchport trunk allowed vlan 126,127
switchport mode trunk
!
interface GigabitEthernet7/40
description WLC-1
switchport trunk native vlan 999
switchport trunk allowed vlan 115,116,120,1160

```

```

switchport mode trunk
macro description EgressQoS
channel-protocol lacp
channel-group 40 mode active
service-policy output 1P7Q1T
!
interface GigabitEthernet7/42
description SR-ASA5540b AIP-SSM mgmt
switchport access vlan 115
switchport mode access
!
interface GigabitEthernet7/43
description SR-ASA5540b outside
switchport access vlan 153
switchport mode access
!
interface GigabitEthernet7/44
description SR-ASA5540b Secure Subnets
switchport trunk allowed vlan 154,155
switchport mode trunk
!
interface GigabitEthernet7/45
description Connection to IPS4240 G0/0
no switchport
no ip address
!
interface GigabitEthernet7/46
description WAN-ISR3925
switchport
switchport access vlan 132
switchport mode access
macro description EgressQoS
channel-group 32 mode on
service-policy output 1P7Q1T
!
interface GigabitEthernet7/47
description IE-ASA5520b AIP-SSM mgmt

```

```

switchport access vlan 115
switchport mode access
!
interface GigabitEthernet7/48
description IE-ASA5520b
switchport trunk allowed vlan 126,127
switchport mode trunk
!
interface Vlan1
no ip address
!
interface Vlan100
description Wired Data
ip address 10.8.0.1 255.255.255.0
ip helper-address 10.8.48.10
ip pim sparse-mode
!
interface Vlan102
description Wired Voice
ip address 10.8.2.1 255.255.255.0
ip helper-address 10.8.48.10
ip pim sparse-mode
!
interface Vlan115
ip address 10.8.15.1 255.255.255.128
!
interface Vlan116
description Wireless Data
ip address 10.8.16.1 255.255.252.0
ip helper-address 10.8.48.10
ip pim sparse-mode
!
interface Vlan120
description Wireless Voice
ip address 10.8.20.1 255.255.252.0
ip helper-address 10.8.48.10
ip pim sparse-mode

```

```

!
interface Vlan127
  description Internet Edge
  ip address 10.8.27.1 255.255.255.128
  ip pim sparse-mode
!
interface Vlan132
  description WAN Services
  ip address 10.8.32.1 255.255.255.128
  ip pim sparse-mode
!
interface Vlan148
  description Server Room VLAN 1
  ip address 10.8.48.1 255.255.255.0
  ip pim sparse-mode
  shutdown
!
interface Vlan149
  description Server Room VLAN 2
  ip address 10.8.49.1 255.255.255.0
  ip pim sparse-mode
!
interface Vlan150
  description BN Services
  ip address 10.8.50.1 255.255.255.0
  ip pim sparse-mode
  shutdown
!
interface Vlan153
  description Server Room Outside
  ip address 10.8.53.1 255.255.255.0
  ip pim sparse-mode
!
!
router eigrp 1
  network 10.8.0.0 0.1.255.255
  passive-interface default

```

```

  no passive-interface Vlan127
  no passive-interface Vlan132
  no passive-interface Vlan153
  eigrp router-id 10.8.15.254
  nsf
!
ip http server
ip http secure-server
!
ip pim rp-address 10.8.15.252 10
!
!
access-list 10 permit 239.1.0.0 0.0.255.255
!
snmp-server community cisco RO
snmp-server community cisco123 RW
!
!
line con 0
  stopbits 1
line vty 0 4
  login local
  transport input ssh
line vty 5 15
  login local
  transport input ssh
!
!
monitor session 1 source interface Po32
monitor session 1 destination interface Gi7/45
monitor session 1 filter packet-type good rx
ntp clock-period 17301598
ntp update-calendar
ntp server 10.8.48.17
end

```

局域网核心，Cisco Catalyst 6500交换机对

Cisco Catalyst 6500 VSS是用以扩展IBA中小企业无边网络基础规模的设计的核心。请注意10.10.0.0 IP地址前缀，表示在中小企业2500设计中所配置的设备。为了缩短配置列表的长度，未在我们的验证实验室中配置的交换机端口没有在以下输出结果中显示。

```
upgrade fpd auto
version 12.2
service timestamps debug datetime msec
service timestamps log datetime msec
service password-encryption
service counters max age 5
!
hostname 6500VSS
!
boot-start-marker
boot-end-marker
!
logging buffered 8192
enable secret 5 ![removed]
!
username admin privilege 15 password 7 ![removed]
no aaa new-model
clock timezone PST -8
clock summer-time PDT recurring
!
!
!
ip multicast-routing
ip ssh version 2
no ip domain-lookup
ip domain-name cisco.local
ip name-server 10.10.48.10
udld enable

vtp mode transparent
!
```

```
switch virtual domain 100
  switch mode virtual
  mac-address use-virtual
!
mls netflow interface
mls qos map cos-dscp 0 8 16 24 32 46 48 56
mls qos
mls cef error action reset
!
crypto pki trustpoint TP-self-signed-1503
  enrollment selfsigned
  subject-name cn=IOS-Self-Signed-Certificate-1503
  revocation-check none
  rsakeypair TP-self-signed-1503
!
!
!
!
!
!
!
!
macro name EgressQoS
  mls qos trust dscp
  wrr-queue queue-limit 10 25 10 10 10 10 10
  wrr-queue bandwidth 1 25 4 10 10 10 10
  priority-queue queue-limit 15
  wrr-queue random-detect 1
  wrr-queue random-detect 2
  wrr-queue random-detect 3
  wrr-queue random-detect 4
  wrr-queue random-detect 5
  wrr-queue random-detect 6
  wrr-queue random-detect 7
  wrr-queue random-detect max-threshold 1 100 100 100 100
  wrr-queue random-detect min-threshold 1 80 100 100 100
  wrr-queue random-detect max-threshold 2 100 100 100 100
```

```

wrr-queue random-detect min-threshold 2 80 100 100 100
wrr-queue random-detect max-threshold 3 80 90 100 100
wrr-queue random-detect min-threshold 3 70 80 90 100
wrr-queue random-detect min-threshold 4 70 80 90 100
wrr-queue random-detect max-threshold 4 80 90 100 100
wrr-queue random-detect min-threshold 5 70 80 90 100
wrr-queue random-detect max-threshold 5 80 90 100 100
wrr-queue random-detect min-threshold 6 70 80 90 100
wrr-queue random-detect max-threshold 6 80 90 100 100
wrr-queue random-detect min-threshold 7 60 70 80 90
wrr-queue random-detect max-threshold 7 70 80 90 100
mls qos queue-mode mode-dscp
wrr-queue dscp-map 1 1 8
wrr-queue dscp-map 2 1 0
wrr-queue dscp-map 3 1 14
wrr-queue dscp-map 3 2 12
wrr-queue dscp-map 3 3 10
wrr-queue dscp-map 4 1 22
wrr-queue dscp-map 4 2 20
wrr-queue dscp-map 4 3 18
wrr-queue dscp-map 5 1 30
wrr-queue dscp-map 5 2 28
wrr-queue dscp-map 5 3 26
wrr-queue dscp-map 6 1 38
wrr-queue dscp-map 6 2 36
wrr-queue dscp-map 6 3 34
wrr-queue dscp-map 7 1 16
wrr-queue dscp-map 7 2 24
wrr-queue dscp-map 7 3 48
wrr-queue dscp-map 7 4 56
priority-queue dscp-map 1 32 40 46
@
macro name EgressQoS-Gig
mls qos trust dscp
wrr-queue queue-limit 20 25 40
priority-queue queue-limit 15
wrr-queue bandwidth 5 25 40

```

```

wrr-queue random-detect 1
wrr-queue random-detect 2
wrr-queue random-detect 3
wrr-queue random-detect max-threshold 1 100 100 100 100 100 100
100 100
wrr-queue random-detect min-threshold 1 80 100 100 100 100 100
100 100
wrr-queue random-detect max-threshold 2 100 100 100 100 100 100
100 100
wrr-queue random-detect min-threshold 2 80 100 100 100 100 100
100 100
wrr-queue random-detect max-threshold 3 70 80 90 100 100 100 100
100
wrr-queue random-detect min-threshold 3 60 70 80 90 100 100 100
100
wrr-queue cos-map 1 1 1
wrr-queue cos-map 2 1 0
wrr-queue cos-map 3 1 2
wrr-queue cos-map 3 2 3
wrr-queue cos-map 3 3 6
wrr-queue cos-map 3 4 7
priority-queue cos-map 1 4 5
@
!
!
spanning-tree mode rapid-pvst
spanning-tree extend system-id
spanning-tree vlan 4-4096 priority 24576
!
no power enable switch 1 module 3
diagnostic bootup level minimal
access-list 10 permit 239.1.0.0 0.0.255.255
access-list 55 permit any
!
redundancy
main-cpu
auto-sync running-config

```

```

mode sso
!
vlan internal allocation policy ascending
vlan access-log ratelimit 2000
!
vlan 100
    name HQ-Wired-Data-A
!
vlan 102
    name HQ-Wired-Voice-A
!
vlan 104
    name HQ-Wired-Data-B
!
vlan 106
    name HQ-Wired-Voice-B
!
vlan 115
    name HQ-Management
!
vlan 116
    name HQ-Wireless-Data
!
vlan 120
    name HQ-Wireless-Voice
!
vlan 127
    name Internet-Edge
!
vlan 132
    name WAN-ROUTING
!
vlan 148
    name Server-Room-1
!
vlan 149
    name Server-Room-2

```

```

!
vlan 150
    name Server-Room-LAN-WAN
!
vlan 999
    name Native
!
vlan 1176
    name Wireless-Guest
!
!
!
!
!
interface Loopback1
    ip address 10.10.15.254 255.255.255.255
    ip pim sparse-mode
!
interface Loopback2
    ip address 10.10.15.252 255.255.255.255
    ip pim sparse-mode
!
interface Port-channel1
    description Links to hq-a3750 { Etherchannel }
    switchport
    switchport trunk encapsulation dot1q
    switchport trunk native vlan 999
    switchport trunk allowed vlan 100,102,115
    switchport mode trunk
    mls qos trust dscp
!
interface Port-channel2
    description Links to hq-a2960s { Etherchannel }
    switchport
    switchport trunk encapsulation dot1q
    switchport trunk native vlan 999
    switchport trunk allowed vlan 100,102,115

```

```

switchport mode trunk
mls qos trust dscp
!
interface Port-channel3
description Links to hq-a3560 { Etherchannel }
switchport
switchport trunk encapsulation dot1q
switchport trunk native vlan 999
switchport trunk allowed vlan 100,102,115
switchport mode trunk
mls qos trust dscp
!
interface Port-channel4
description Links to hq-a4507 { Etherchannel }
switchport
switchport trunk encapsulation dot1q
switchport trunk native vlan 999
switchport trunk allowed vlan 104,106,115
switchport mode trunk
mls qos trust dscp
!
interface Port-channel11
description EtherChannel Uplink for WLC-5508-1
switchport
switchport trunk encapsulation dot1q
switchport trunk allowed vlan 115,116,120,1176
switchport mode trunk
!
interface Port-channel12
description EtherChannel Uplink for WLC-5508-2
switchport
switchport trunk encapsulation dot1q
switchport trunk allowed vlan 115,116,120,1176
switchport mode trunk
!
interface Port-channel32
description WAN Router

```

```

switchport
switchport access vlan 132
switchport mode access
mls qos trust dscp
macro description EgressQoS-Gig
spanning-tree portfast edge
!
interface Port-channel48
description Links to SR3750X
switchport
switchport trunk encapsulation dot1q
switchport trunk native vlan 999
switchport trunk allowed vlan 115,148,150
switchport mode trunk
mls qos trust dscp
!
interface Port-channel101
description Virtual Switch Link
no switchport
no ip address
switch virtual link 1
mls qos trust cos
no mls qos channel-consistency
!
interface Port-channel102
description Virtual Switch Link
no switchport
no ip address
switch virtual link 2
mls qos trust cos
no mls qos channel-consistency
!
interface GigabitEthernet1/1/1
no switchport
no ip address
dual-active fast-hello
!

```

```

interface TenGigabitEthernet1/1/4
  no switchport
  no ip address
  mls qos trust cos
  channel-group 101 mode on
!
interface TenGigabitEthernet1/1/5
  no switchport
  no ip address
  mls qos trust cos
  channel-group 101 mode on
!
interface GigabitEthernet1/2/9
  description Links to hq-a2960s { Etherchannel }
  switchport
  switchport trunk encapsulation dot1q
  switchport trunk native vlan 999
  switchport trunk allowed vlan 100,102,115
  switchport mode trunk
  wrr-queue bandwidth 5 25 40
  wrr-queue queue-limit 20 25 40
  wrr-queue random-detect min-threshold 1 80 100 100 100 100 100
100 100
  wrr-queue random-detect min-threshold 2 80 100 100 100 100 100
100 100
  wrr-queue random-detect min-threshold 3 60 70 80 90 100 100 100
100
  wrr-queue random-detect max-threshold 1 100 100 100 100 100 100
100 100
  wrr-queue random-detect max-threshold 2 100 100 100 100 100 100
100 100
  wrr-queue random-detect max-threshold 3 70 80 90 100 100 100 100
100
  wrr-queue cos-map 1 1 1
  wrr-queue cos-map 2 1 0
  wrr-queue cos-map 3 1 2
  wrr-queue cos-map 3 2 3

```

```

wrr-queue cos-map 3 3 6
wrr-queue cos-map 3 4 7
priority-queue cos-map 1 4 5
mls qos trust dscp
macro description EgressQoS-Gig
channel-protocol lacp
channel-group 2 mode active
!
interface GigabitEthernet1/2/10
  description Links to hq-a3750 { Etherchannel }
  switchport
  switchport trunk encapsulation dot1q
  switchport trunk native vlan 999
  switchport trunk allowed vlan 100,102,115
  switchport mode trunk
  wrr-queue bandwidth 5 25 40
  wrr-queue queue-limit 20 25 40
  wrr-queue random-detect min-threshold 1 80 100 100 100 100 100
100 100
  wrr-queue random-detect min-threshold 2 80 100 100 100 100 100
100 100
  wrr-queue random-detect min-threshold 3 60 70 80 90 100 100 100
100
  wrr-queue random-detect max-threshold 1 100 100 100 100 100 100
100 100
  wrr-queue random-detect max-threshold 2 100 100 100 100 100 100
100 100
  wrr-queue random-detect max-threshold 3 70 80 90 100 100 100 100
100
  wrr-queue cos-map 1 1 1
  wrr-queue cos-map 2 1 0
  wrr-queue cos-map 3 1 2
  wrr-queue cos-map 3 2 3
  wrr-queue cos-map 3 3 6
  wrr-queue cos-map 3 4 7
  priority-queue cos-map 1 4 5
  mls qos trust dscp

```

```

macro description EgressQoS-Gig
channel-protocol lacp
channel-group 1 mode active
!
interface GigabitEthernet1/2/11
description Links to hq-a3560 { Etherchannel }
switchport
switchport trunk encapsulation dot1q
switchport trunk native vlan 999
switchport trunk allowed vlan 100,102,115
switchport mode trunk
wrr-queue bandwidth 5 25 40
wrr-queue queue-limit 20 25 40
wrr-queue random-detect min-threshold 1 80 100 100 100 100 100
100 100
wrr-queue random-detect min-threshold 2 80 100 100 100 100 100
100 100
wrr-queue random-detect min-threshold 3 60 70 80 90 100 100 100
100
wrr-queue random-detect max-threshold 1 100 100 100 100 100 100
100 100
wrr-queue random-detect max-threshold 2 100 100 100 100 100 100
100 100
wrr-queue random-detect max-threshold 3 70 80 90 100 100 100 100
100
wrr-queue cos-map 1 1 1
wrr-queue cos-map 2 1 0
wrr-queue cos-map 3 1 2
wrr-queue cos-map 3 2 3
wrr-queue cos-map 3 3 6
wrr-queue cos-map 3 4 7
priority-queue cos-map 1 4 5
mls qos trust dscp
macro description EgressQoS-Gig
channel-protocol lacp
channel-group 3 mode active
!

```

```

interface GigabitEthernet1/2/17
description Physical Uplink for WLC-5508-1
switchport
switchport trunk encapsulation dot1q
switchport trunk allowed vlan 115,116,120,1176
switchport mode trunk
channel-group 11 mode on
!
interface GigabitEthernet1/2/18
description Physical Uplink for WLC-5508-2
switchport
switchport trunk encapsulation dot1q
switchport trunk allowed vlan 115,116,120,1176
switchport mode trunk
channel-group 12 mode on
!
interface GigabitEthernet1/2/21
description Links to IPS4255 Gig0/0
no switchport
no ip address
!
interface GigabitEthernet1/2/22
description WAN Router
switchport
switchport access vlan 132
switchport mode access
mls qos trust dscp
macro description EgressQoS-Gig
channel-group 32 mode on
!
interface GigabitEthernet1/2/23
description ie-asa-5540a AIP-SSM mgmt
switchport
switchport access vlan 115
switchport mode access
spanning-tree portfast edge
!

```

```

interface GigabitEthernet1/2/24
  description To ie-asa-5540a
  switchport
  switchport trunk encapsulation dot1q
  switchport trunk allowed vlan 127,1176
  switchport mode trunk
!
interface TenGigabitEthernet1/4/1
  description Links to SR3750X
  switchport
  switchport trunk encapsulation dot1q
  switchport trunk native vlan 999
  switchport trunk allowed vlan 115,148,150
  switchport mode trunk
  wrr-queue bandwidth 1 25 4 10 10 10 10
  wrr-queue queue-limit 10 25 10 10 10 10 10
  wrr-queue random-detect min-threshold 1 80 100 100 100
  wrr-queue random-detect min-threshold 2 80 100 100 100
  wrr-queue random-detect min-threshold 3 70 80 90 100
  wrr-queue random-detect min-threshold 4 70 80 90 100
  wrr-queue random-detect min-threshold 5 70 80 90 100
  wrr-queue random-detect min-threshold 6 70 80 90 100
  wrr-queue random-detect min-threshold 7 60 70 80 90
  wrr-queue random-detect max-threshold 1 100 100 100 100
  wrr-queue random-detect max-threshold 2 100 100 100 100
  wrr-queue random-detect max-threshold 3 80 90 100 100
  wrr-queue random-detect max-threshold 4 80 90 100 100
  wrr-queue random-detect max-threshold 5 80 90 100 100
  wrr-queue random-detect max-threshold 6 80 90 100 100
  wrr-queue random-detect max-threshold 7 70 80 90 100
  wrr-queue random-detect 4
  wrr-queue random-detect 5
  wrr-queue random-detect 6
  wrr-queue random-detect 7
  wrr-queue dscp-map 1 1 1 2 3 4 5 6 7 8
  wrr-queue dscp-map 1 1 9 11 13 15 17 19 21 23
  wrr-queue dscp-map 1 1 25 27 29 31 33 39 41 42

```

```

  wrr-queue dscp-map 1 1 43 44 45 47
  wrr-queue dscp-map 2 1 0
  wrr-queue dscp-map 3 1 14
  wrr-queue dscp-map 3 2 12
  wrr-queue dscp-map 3 3 10
  wrr-queue dscp-map 4 1 22
  wrr-queue dscp-map 4 2 20
  wrr-queue dscp-map 4 3 18
  wrr-queue dscp-map 5 1 30 35 37
  wrr-queue dscp-map 5 2 28
  wrr-queue dscp-map 5 3 26
  wrr-queue dscp-map 6 1 38 49 50 51 52 53 54 55
  wrr-queue dscp-map 6 1 57 58 59 60 61 62 63
  wrr-queue dscp-map 6 2 36
  wrr-queue dscp-map 6 3 34
  wrr-queue dscp-map 7 1 16
  wrr-queue dscp-map 7 2 24
  wrr-queue dscp-map 7 3 48
  wrr-queue dscp-map 7 4 56
  priority-queue dscp-map 1 32 40 46
  mls qos queue-mode mode-dscp
  mls qos trust dscp
  macro description EgressQoS
  channel-protocol lacp
  channel-group 48 mode active
!
interface TenGigabitEthernet1/4/5
  description Links to hq-a4507 { Etherchannel }
  switchport
  switchport trunk encapsulation dot1q
  switchport trunk native vlan 999
  switchport trunk allowed vlan 104,106,115
  switchport mode trunk
  wrr-queue bandwidth 1 25 4 10 10 10 10
  wrr-queue queue-limit 10 25 10 10 10 10 10
  wrr-queue random-detect min-threshold 1 80 100 100 100
  wrr-queue random-detect min-threshold 2 80 100 100 100

```

```

wrr-queue random-detect min-threshold 3 70 80 90 100
wrr-queue random-detect min-threshold 4 70 80 90 100
wrr-queue random-detect min-threshold 5 70 80 90 100
wrr-queue random-detect min-threshold 6 70 80 90 100
wrr-queue random-detect min-threshold 7 60 70 80 90
wrr-queue random-detect max-threshold 1 100 100 100 100
wrr-queue random-detect max-threshold 2 100 100 100 100
wrr-queue random-detect max-threshold 3 80 90 100 100
wrr-queue random-detect max-threshold 4 80 90 100 100
wrr-queue random-detect max-threshold 5 80 90 100 100
wrr-queue random-detect max-threshold 6 80 90 100 100
wrr-queue random-detect max-threshold 7 70 80 90 100
wrr-queue random-detect 4
wrr-queue random-detect 5
wrr-queue random-detect 6
wrr-queue random-detect 7
wrr-queue dscp-map 1 1 1 2 3 4 5 6 7 8
wrr-queue dscp-map 1 1 9 11 13 15 17 19 21 23
wrr-queue dscp-map 1 1 25 27 29 31 33 39 41 42
wrr-queue dscp-map 1 1 43 44 45 47
wrr-queue dscp-map 2 1 0
wrr-queue dscp-map 3 1 14
wrr-queue dscp-map 3 2 12
wrr-queue dscp-map 3 3 10
wrr-queue dscp-map 4 1 22
wrr-queue dscp-map 4 2 20
wrr-queue dscp-map 4 3 18
wrr-queue dscp-map 5 1 30 35 37
wrr-queue dscp-map 5 2 28
wrr-queue dscp-map 5 3 26
wrr-queue dscp-map 6 1 38 49 50 51 52 53 54 55
wrr-queue dscp-map 6 1 57 58 59 60 61 62 63
wrr-queue dscp-map 6 2 36
wrr-queue dscp-map 6 3 34
wrr-queue dscp-map 7 1 16
wrr-queue dscp-map 7 2 24
wrr-queue dscp-map 7 3 48

```

```

wrr-queue dscp-map 7 4 56
priority-queue dscp-map 1 32 40 46
mls qos queue-mode mode-dscp
mls qos trust dscp
macro description EgressQoS
channel-protocol lacp
channel-group 4 mode active
!
interface GigabitEthernet2/1/1
no switchport
no ip address
dual-active fast-hello
!
interface TenGigabitEthernet2/1/4
no switchport
no ip address
mls qos trust cos
channel-group 102 mode on
!
interface TenGigabitEthernet2/1/5
no switchport
no ip address
mls qos trust cos
channel-group 102 mode on
!
interface GigabitEthernet2/2/9
description Links to hq-a2960s { Etherchannel }
switchport
switchport trunk encapsulation dot1q
switchport trunk native vlan 999
switchport trunk allowed vlan 100,102,115
switchport mode trunk
wrr-queue bandwidth 5 25 40
wrr-queue queue-limit 20 25 40
wrr-queue random-detect min-threshold 1 80 100 100 100 100 100
100 100
wrr-queue random-detect min-threshold 2 80 100 100 100 100 100

```

```

100 100
wrr-queue random-detect min-threshold 3 60 70 80 90 100 100 100
100
wrr-queue random-detect max-threshold 1 100 100 100 100 100 100
100 100
wrr-queue random-detect max-threshold 2 100 100 100 100 100 100
100 100
wrr-queue random-detect max-threshold 3 70 80 90 100 100 100 100
100
wrr-queue cos-map 1 1 1
wrr-queue cos-map 2 1 0
wrr-queue cos-map 3 1 2
wrr-queue cos-map 3 2 3
wrr-queue cos-map 3 3 6
wrr-queue cos-map 3 4 7
priority-queue cos-map 1 4 5
mls qos trust dscp
macro description EgressQoS-Gig
channel-protocol lacp
channel-group 2 mode active
!
interface GigabitEthernet2/2/10
description Links to hq-a3750 { Etherchannel } switchport
switchport trunk encapsulation dot1q
switchport trunk native vlan 999
switchport trunk allowed vlan 100,102,115
switchport mode trunk
wrr-queue bandwidth 5 25 40
wrr-queue queue-limit 20 25 40
wrr-queue random-detect min-threshold 1 80 100 100 100 100 100
100 100
wrr-queue random-detect min-threshold 2 80 100 100 100 100 100
100 100
wrr-queue random-detect min-threshold 3 60 70 80 90 100 100 100
100
wrr-queue random-detect max-threshold 1 100 100 100 100 100 100
100 100

```

```

wrr-queue random-detect max-threshold 2 100 100 100 100 100 100
100 100
wrr-queue random-detect max-threshold 3 70 80 90 100 100 100 100
100
wrr-queue cos-map 1 1 1
wrr-queue cos-map 2 1 0
wrr-queue cos-map 3 1 2
wrr-queue cos-map 3 2 3
wrr-queue cos-map 3 3 6
wrr-queue cos-map 3 4 7
priority-queue cos-map 1 4 5
mls qos trust dscp
macro description EgressQoS-Gig
channel-protocol lacp
channel-group 1 mode active
!
interface GigabitEthernet2/2/11
description Links to hq-a3560 { Etherchannel }
switchport
switchport trunk encapsulation dot1q
switchport trunk native vlan 999
switchport trunk allowed vlan 100,102,115
switchport mode trunk
wrr-queue bandwidth 5 25 40
wrr-queue queue-limit 20 25 40
wrr-queue random-detect min-threshold 1 80 100 100 100 100 100
100 100
wrr-queue random-detect min-threshold 2 80 100 100 100 100 100
100 100
wrr-queue random-detect min-threshold 3 60 70 80 90 100 100 100
100
wrr-queue random-detect max-threshold 1 100 100 100 100 100 100
100 100
wrr-queue random-detect max-threshold 2 100 100 100 100 100 100
100 100
wrr-queue random-detect max-threshold 3 70 80 90 100 100 100 100
100

```

```

wrr-queue cos-map 1 1 1
wrr-queue cos-map 2 1 0
wrr-queue cos-map 3 1 2
wrr-queue cos-map 3 2 3
wrr-queue cos-map 3 3 6
wrr-queue cos-map 3 4 7
priority-queue cos-map 1 4 5
mls qos trust dscp
macro description EgressQoS-Gig
channel-protocol lacp
channel-group 3 mode active
!
!
interface GigabitEthernet2/2/17
description Physical Uplink for WLC-5508-1
switchport
switchport trunk encapsulation dot1q
switchport trunk allowed vlan 115,116,120,1176
switchport mode trunk
channel-group 11 mode on
!
interface GigabitEthernet2/2/18
description Physical Uplink for WLC-5508-2
switchport
switchport trunk encapsulation dot1q
switchport trunk allowed vlan 115,116,120,1176
switchport mode trunk
channel-group 12 mode on
!
interface GigabitEthernet2/2/20
description IPS-4255 mgmt
switchport
switchport access vlan 115
switchport trunk encapsulation dot1q
switchport mode access
spanning-tree portfast edge
!

```

```

interface GigabitEthernet2/2/21
description Links to IPS
no switchport
no ip address
!
interface GigabitEthernet2/2/22
description WAN Router
switchport
switchport access vlan 132
switchport mode access
mls qos trust dscp
channel-group 32 mode on
!
interface GigabitEthernet2/2/22
description ie-asa-5540b AIP-SSM mgmt
switchport
switchport access vlan 115
switchport mode access
spanning-tree portfast edge
!
interface GigabitEthernet2/2/24
description To ie-asa-5540b
switchport
switchport trunk encapsulation dot1q
switchport trunk allowed vlan 127,1176
switchport mode trunk
!
interface TenGigabitEthernet2/4/1
description Links to SR3750X
switchport
switchport trunk encapsulation dot1q
switchport trunk native vlan 999
switchport trunk allowed vlan 115,148,150
switchport mode trunk
wrr-queue bandwidth 1 25 4 10 10 10 10
wrr-queue queue-limit 10 25 10 10 10 10 10
wrr-queue random-detect min-threshold 1 80 100 100 100

```

```

wrr-queue random-detect min-threshold 2 80 100 100 100
wrr-queue random-detect min-threshold 3 70 80 90 100
wrr-queue random-detect min-threshold 4 70 80 90 100
wrr-queue random-detect min-threshold 5 70 80 90 100
wrr-queue random-detect min-threshold 6 70 80 90 100
wrr-queue random-detect min-threshold 7 60 70 80 90
wrr-queue random-detect max-threshold 1 100 100 100 100
wrr-queue random-detect max-threshold 2 100 100 100 100
wrr-queue random-detect max-threshold 3 80 90 100 100
wrr-queue random-detect max-threshold 4 80 90 100 100
wrr-queue random-detect max-threshold 5 80 90 100 100
wrr-queue random-detect max-threshold 6 80 90 100 100
wrr-queue random-detect max-threshold 7 70 80 90 100
wrr-queue random-detect 4
wrr-queue random-detect 5
wrr-queue random-detect 6
wrr-queue random-detect 7
wrr-queue dscp-map 1 1 1 2 3 4 5 6 7 8
wrr-queue dscp-map 1 1 9 11 13 15 17 19 21 23
wrr-queue dscp-map 1 1 25 27 29 31 33 39 41 42
wrr-queue dscp-map 1 1 43 44 45 47
wrr-queue dscp-map 2 1 0
wrr-queue dscp-map 3 1 14
wrr-queue dscp-map 3 2 12
wrr-queue dscp-map 3 3 10
wrr-queue dscp-map 4 1 22
wrr-queue dscp-map 4 2 20
wrr-queue dscp-map 4 3 18
wrr-queue dscp-map 5 1 30 35 37
wrr-queue dscp-map 5 2 28
wrr-queue dscp-map 5 3 26
wrr-queue dscp-map 6 1 38 49 50 51 52 53 54 55
wrr-queue dscp-map 6 1 57 58 59 60 61 62 63
wrr-queue dscp-map 6 2 36
wrr-queue dscp-map 6 3 34
wrr-queue dscp-map 7 1 16
wrr-queue dscp-map 7 2 24

```

```

wrr-queue dscp-map 7 3 48
wrr-queue dscp-map 7 4 56
priority-queue dscp-map 1 32 40 46
mls qos queue-mode mode-dscp
mls qos trust dscp
macro description EgressQoS
channel-protocol lacp
channel-group 48 mode active
!
interface TenGigabitEthernet2/4/5
description A4507R
switchport
switchport trunk encapsulation dot1q
switchport trunk native vlan 999
switchport trunk allowed vlan 104,106,115
switchport mode trunk
wrr-queue bandwidth 1 25 4 10 10 10 10
wrr-queue queue-limit 10 25 10 10 10 10 10
wrr-queue random-detect min-threshold 1 80 100 100 100
wrr-queue random-detect min-threshold 2 80 100 100 100
wrr-queue random-detect min-threshold 3 70 80 90 100
wrr-queue random-detect min-threshold 4 70 80 90 100
wrr-queue random-detect min-threshold 5 70 80 90 100
wrr-queue random-detect min-threshold 6 70 80 90 100
wrr-queue random-detect min-threshold 7 60 70 80 90
wrr-queue random-detect max-threshold 1 100 100 100 100
wrr-queue random-detect max-threshold 2 100 100 100 100
wrr-queue random-detect max-threshold 3 80 90 100 100
wrr-queue random-detect max-threshold 4 80 90 100 100
wrr-queue random-detect max-threshold 5 80 90 100 100
wrr-queue random-detect max-threshold 6 80 90 100 100
wrr-queue random-detect max-threshold 7 70 80 90 100
wrr-queue random-detect 4
wrr-queue random-detect 5
wrr-queue random-detect 6
wrr-queue random-detect 7
wrr-queue dscp-map 1 1 1 2 3 4 5 6 7 8

```

```

wrr-queue dscp-map 1 1 9 11 13 15 17 19 21 23
wrr-queue dscp-map 1 1 25 27 29 31 33 39 41 42
wrr-queue dscp-map 1 1 43 44 45 47
wrr-queue dscp-map 2 1 0
wrr-queue dscp-map 3 1 14
wrr-queue dscp-map 3 2 12
wrr-queue dscp-map 3 3 10
wrr-queue dscp-map 4 1 22
wrr-queue dscp-map 4 2 20
wrr-queue dscp-map 4 3 18
wrr-queue dscp-map 5 1 30 35 37
wrr-queue dscp-map 5 2 28
wrr-queue dscp-map 5 3 26
wrr-queue dscp-map 6 1 38 49 50 51 52 53 54 55
wrr-queue dscp-map 6 1 57 58 59 60 61 62 63
wrr-queue dscp-map 6 2 36
wrr-queue dscp-map 6 3 34
wrr-queue dscp-map 7 1 16
wrr-queue dscp-map 7 2 24
wrr-queue dscp-map 7 3 48
wrr-queue dscp-map 7 4 56
priority-queue dscp-map 1 32 40 46
mls qos queue-mode mode-dscp
mls qos trust dscp
macro description EgressQoS
channel-protocol lacp
channel-group 4 mode active
!
interface Vlan1
no ip address
shutdown
!
interface Vlan100
ip address 10.10.0.1 255.255.255.0
ip helper-address 10.10.48.10
ip pim sparse-mode
!

```

```

interface Vlan102
ip address 10.10.2.1 255.255.255.0
ip helper-address 10.10.48.10
ip pim sparse-mode
!
interface Vlan104
ip address 10.10.4.1 255.255.255.0
ip helper-address 10.10.48.10
ip pim sparse-mode
!
interface Vlan106
ip address 10.10.6.1 255.255.255.0
ip helper-address 10.10.48.10
ip pim sparse-mode
!
interface Vlan115
ip address 10.10.15.1 255.255.255.128
!
interface Vlan116
description Wireless DATA
ip address 10.10.16.1 255.255.252.0
ip helper-address 10.10.48.10
ip pim sparse-mode
!
interface Vlan120
description Wireless VOICE
ip address 10.10.20.1 255.255.252.0
ip helper-address 10.10.48.10
ip pim sparse-mode
!
interface Vlan127
ip address 10.10.27.1 255.255.255.128
!
interface Vlan132
ip address 10.10.32.1 255.255.255.128
ip pim sparse-mode
!

```

```

interface Vlan148
  description Server-Room-1
  ip address 10.10.48.1 255.255.255.0
  ip pim sparse-mode
!
interface Vlan150
  ip address 10.10.50.1 255.255.255.0
  ip pim sparse-mode
!
!
router eigrp 1
  network 10.10.0.0 0.1.255.255
  passive-interface default
  no passive-interface Vlan127
  no passive-interface Vlan132
  eigrp router-id 10.10.15.254
  nsf
!
ip classless
ip forward-protocol nd
!
!
ip http server
ip http secure-server
ip pim rp-address 10.10.15.252 10
!
logging trap errors
logging 10.10.48.35
!
snmp-server community cisco RO
snmp-server community cisco123 RW 55
!
!
control-plane
!
!
dial-peer cor custom
!

```

```

!
!
!
line con 0
line vty 0 4
  access-class 55 in
  login local
  transport input ssh
line vty 5 15
  access-class 55 in
  login local
  transport input ssh
!
!
monitor session 1 source interface Po48
monitor session 1 destination interface Gi1/2/22
ntp clock-period 17180063
ntp update-calendar
ntp server 10.10.48.17
mac-address-table aging-time 480
no event manager policy Mandatory.go_switchbus.tcl type system
!
!
module provision switch 1
  slot 1 slot-type 254 port-type 31 number 2 port-type 61 number 1
  port-type 60 number 2 virtual-slot 17
  slot 2 slot-type 156 port-type 31 number 24 virtual-slot 18
  slot 3 slot-type 95 port-type 30 number 8 virtual-slot 19
  slot 4 slot-type 227 port-type 60 number 8 virtual-slot 20
  !
module provision switch 2
  slot 1 slot-type 254 port-type 31 number 2 port-type 61 number 1
  port-type 60 number 2 virtual-slot 33
  slot 2 slot-type 156 port-type 31 number 24 virtual-slot 34
  slot 4 slot-type 227 port-type 60 number 8 virtual-slot 36
  !
end

```

局域网： 服务器机房

服务器机房，Cisco Catalyst 3750X交换机堆叠

以下配置显示了一个包含两成员、48端口Cisco Catalyst 3750X交换机堆叠，一个高性能局域网接入交换机选项，提供了全部Cisco Catalyst接入交换机特性和永续的堆叠功能。每个堆叠成员上的端口1-20被配置为接入端口，用于服务器连接。其余的一些端口被配置为多链路EtherChannel端口，用于连接各种基础设施设备。

这里对中小企业1000设计中的Cisco Catalyst 3750X服务器机房交换机堆叠进行了说明。分别用于中小企业500设计和中小企业2500设计的Cisco Catalyst 3750X服务器机房交换机在针对各自设计使用了不同的IP地址之外，并无其他不同。

```
version 15.0
no service pad
service timestamps debug datetime msec
service timestamps log datetime msec
service password-encryption
!
hostname SR3750X
!
boot-start-marker
boot-end-marker
!
!
enable secret 5 ![removed]
!
username admin privilege 15 password 7 ![removed]
no aaa new-model
clock timezone PST -8 0
clock summer-time PDT recurring
switch 1 provision ws-c3750x-24p
```

```
switch 2 provision ws-c3750x-24p
stack-mac persistent timer 0
system mtu routing 1500
!
!
!
ip domain-name cisco.local
ip name-server 10.10.48.10
vtp mode transparent
udld enable
!
mls qos map policed-dscp 0 10 18 to 8
mls qos map cos-dscp 0 8 16 24 32 46 48 56
mls qos srr-queue input bandwidth 70 30
mls qos srr-queue input threshold 1 80 90
mls qos srr-queue input priority-queue 2 bandwidth 30
mls qos srr-queue input cos-map queue 1 threshold 2 3
mls qos srr-queue input cos-map queue 1 threshold 3 6 7
mls qos srr-queue input cos-map queue 2 threshold 1 4
mls qos srr-queue input dscp-map queue 1 threshold 2 24
mls qos srr-queue input dscp-map queue 1 threshold 3 48 49 50 51
52 53 54 55
mls qos srr-queue input dscp-map queue 1 threshold 3 56 57 58 59
60 61 62 63
mls qos srr-queue input dscp-map queue 2 threshold 3 32 33 40 41
42 43 44 45
mls qos srr-queue input dscp-map queue 2 threshold 3 46 47
mls qos srr-queue output cos-map queue 1 threshold 3 4 5
mls qos srr-queue output cos-map queue 2 threshold 1 2
mls qos srr-queue output cos-map queue 2 threshold 2 3
mls qos srr-queue output cos-map queue 2 threshold 3 6 7
mls qos srr-queue output cos-map queue 3 threshold 3 0
mls qos srr-queue output cos-map queue 4 threshold 3 1
mls qos srr-queue output dscp-map queue 1 threshold 3 32 33 40 41
42 43 44 45
mls qos srr-queue output dscp-map queue 1 threshold 3 46 47
mls qos srr-queue output dscp-map queue 2 threshold 1 16 17 18 19
```

```

21 22 23 26
mls qos srr-queue output dscp-map queue 2 threshold 1 27 28 29 30
31 34 35 36
mls qos srr-queue output dscp-map queue 2 threshold 1 37 38 39
mls qos srr-queue output dscp-map queue 2 threshold 2 24
mls qos srr-queue output dscp-map queue 2 threshold 3 48 49 50 51
52 53 54 55
mls qos srr-queue output dscp-map queue 2 threshold 3 56 57 58 59
60 61 62 63
mls qos srr-queue output dscp-map queue 3 threshold 3 0 1 2 3 4 5
6 7
mls qos srr-queue output dscp-map queue 4 threshold 1 8 9 11 13
15
mls qos srr-queue output dscp-map queue 4 threshold 2 10 12 14
mls qos queue-set output 1 threshold 1 100 100 50 200
mls qos queue-set output 1 threshold 2 125 125 100 400
mls qos queue-set output 1 threshold 3 60 150 50 200
mls qos queue-set output 1 buffers 15 25 40 20
mls qos
!
crypto pki trustpoint TP-self-signed-252211072
  enrollment selfsigned
  subject-name cn=IOS-Self-Signed-Certificate-252211072
  revocation-check none
  rsakeypair TP-self-signed-252211072
!
!
crypto pki certificate chain TP-self-signed-252211072
  certificate self-signed 01
    ![removed]
  quit
license boot level lanbase
license boot level lanbase switch 1
!
!
!
!

```

```

spanning-tree mode rapid-pvst
spanning-tree extend system-id
!
!
!
port-channel load-balance src-dst-ip
!
vlan internal allocation policy ascending
!
vlan 115
  name Management
!
vlan 148
  name Server-VLAN-1
!
vlan 149
  name Server-VLAN-2
!
vlan 150
  name BN-Services
!
vlan 154
  name Server-Room-Inside-1
!
vlan 155
  name Server-Room-Inside-2
!
vlan 999
  name Anti-VLAN-Hopping
!
ip ssh version 2
!
!
!
macro name EgressQoS
mls qos trust dscp
queue-set 2

```

```

srr-queue bandwidth share 1 30 35 5
priority-queue out
@
!
!
interface Port-channel1
description EtherChannel to Core 4507
switchport trunk encapsulation dot1q
switchport trunk allowed vlan 115,148-150,154,155
switchport mode trunk
!
interface Port-channel21
description ACE4710
switchport trunk encapsulation dot1q
switchport trunk allowed vlan 148
switchport mode trunk
macro apply EgressQoS
spanning-tree portfast
!
interface FastEthernet0
no ip address
!
interface range GigabitEthernet1/0/1-20
switchport access vlan 148
switchport mode access
srr-queue bandwidth share 1 30 35 5
queue-set 2
priority-queue out
mls qos trust dscp
macro apply EgressQoS
spanning-tree portfast
!
interface GigabitEthernet1/0/21
description ACE4710
switchport trunk encapsulation dot1q
switchport trunk allowed vlan 148
switchport mode trunk

```

```

srr-queue bandwidth share 1 30 35 5
queue-set 2
priority-queue out
mls qos trust dscp
macro apply EgressQoS
spanning-tree portfast
channel-group 21 mode on
!
interface GigabitEthernet1/0/22
description SJC23-Lab-ESX21
switchport trunk encapsulation dot1q
switchport trunk allowed vlan 148-150,154,155
switchport mode trunk
srr-queue bandwidth share 1 30 35 5
queue-set 2
priority-queue out
mls qos trust dscp
macro apply EgressQoS
spanning-tree portfast
!
interface GigabitEthernet1/0/23
description SR-AIP-SSM-40-1
switchport access vlan 148
switchport mode access
srr-queue bandwidth share 1 30 35 5
queue-set 2
priority-queue out
mls qos trust dscp
macro apply EgressQoS
spanning-tree portfast
!
interface GigabitEthernet1/0/24
switchport access vlan 148
switchport mode access
srr-queue bandwidth share 1 30 35 5
queue-set 2
priority-queue out

```

```

mls qos trust dscp
macro apply EgressQoS
spanning-tree portfast
!
interface GigabitEthernet1/1/1
switchport trunk encapsulation dot1q
switchport trunk allowed vlan 115,148-150,154,155
switchport mode trunk
srr-queue bandwidth share 1 30 35 5
queue-set 2
priority-queue out
mls qos trust dscp
macro apply EgressQoS
channel-protocol lacp
channel-group 1 mode active
!
interface GigabitEthernet1/1/2
!
interface GigabitEthernet1/1/3
!
interface GigabitEthernet1/1/4
!
interface TenGigabitEthernet1/1/1
!
interface TenGigabitEthernet1/1/2
!
interface range GigabitEthernet2/0/1-20
switchport access vlan 148
switchport mode access
srr-queue bandwidth share 1 30 35 5
queue-set 2
priority-queue out
mls qos trust dscp
macro apply EgressQoS
spanning-tree portfast
!
interface GigabitEthernet2/0/21

```

```

description ACE4710
switchport trunk encapsulation dot1q
switchport trunk allowed vlan 148
switchport mode trunk
srr-queue bandwidth share 1 30 35 5
queue-set 2
priority-queue out
mls qos trust dscp
macro apply EgressQoS
spanning-tree portfast
channel-group 21 mode on
!
interface GigabitEthernet2/0/22
description SJC23-Lab-NTP-B
switchport access vlan 148
switchport mode access
srr-queue bandwidth share 1 30 35 5
queue-set 2
priority-queue out
mls qos trust dscp
macro apply EgressQoS
spanning-tree portfast
!
interface GigabitEthernet2/0/23
description SR-AIP-SSM-40-2
switchport access vlan 148
switchport mode access
srr-queue bandwidth share 1 30 35 5
queue-set 2
priority-queue out
mls qos trust dscp
macro apply EgressQoS
spanning-tree portfast
!
interface GigabitEthernet2/0/24
switchport access vlan 148
switchport mode access

```

```

srr-queue bandwidth share 1 30 35 5
queue-set 2
priority-queue out
mls qos trust dscp
macro apply EgressQoS
spanning-tree portfast
!
interface GigabitEthernet2/1/1
switchport trunk encapsulation dot1q
switchport trunk allowed vlan 115,148-150,154,155
switchport mode trunk
srr-queue bandwidth share 1 30 35 5
queue-set 2
priority-queue out
mls qos trust dscp
macro apply EgressQoS
channel-protocol lacp
channel-group 1 mode active
!
interface GigabitEthernet2/1/2
!
interface GigabitEthernet2/1/3
!
interface GigabitEthernet2/1/4
!
interface TenGigabitEthernet2/1/1
!
interface TenGigabitEthernet2/1/2
!
interface Vlan1
no ip address
!
interface Vlan115
ip address 10.10.15.61 255.255.255.128
!
ip default-gateway 10.10.15.1
ip http server

```

```

ip http secure-server
logging esm config
snmp-server community cisco RO
snmp-server community cisco123 RW
!
!
line con 0
line vty 0 4
login local
length 0
transport input ssh
line vty 5 15
login local
length 0
transport input ssh
!
ntp server 10.10.48.17
end

```

局域网：园区接入

局网接入，Cisco Catalyst 4507R交换机

以下配置显示了一个Cisco Catalyst 4507R接入交换机，一个基于机箱（chassis）的高性能局域网接入交换机，提供了全面的Cisco Catalyst接入交换机特性。如果安装了双电源和双管理引擎，一个4507R接入交换机可提供提供电源和管理引擎永续性。在下面的配置中，接入线卡上的千兆以太网端口1-48针对终端设备进行了配置，然后增添额外配置，来转换端口45-48，以用于无线接入点连接。

```
version 15.0
no service pad
service timestamps debug datetime msec
service timestamps log datetime msec
service password-encryption
service compress-config
!
hostname hq-a4507
!
boot-start-marker
boot-end-marker
!
enable secret 5 ![removed]
!
username admin privilege 15 password 7 ![removed]
!
macro name AccessEdgeQoS
qos trust device cisco-phone
service-policy input CISCOPHONE-POLICY
service-policy output 1P7Q1T
@
macro name EgressQoS
service-policy output 1P7Q1T
```

```
@
!
no aaa new-model
clock timezone PST -8
clock summer-time PDT recurring
hw-module uplink select tengigabitethernet
udld enable

ip subnet-zero
ip arp inspection vlan 104,106
ip domain-name cisco.local
ip name-server 10.10.48.10
ip vrf Mgmt-vrf
!
ip dhcp snooping vlan 104,106
no ip dhcp snooping information option
ip dhcp snooping
!
!
vtp mode transparent
!
!
crypto pki trustpoint TP-self-signed-14461
  enrollment selfsigned
  subject-name cn=IOS-Self-Signed-Certificate-14461
  revocation-check none
  rsakeypair TP-self-signed-14461
!
!
crypto pki certificate chain TP-self-signed-14461
  certificate self-signed 01
  ![removed]
  quit
power redundancy-mode redundant
!
!
!
```

```

!
spanning-tree mode rapid-pvst
spanning-tree extend system-id
!
redundancy
 mode sso
!
vlan internal allocation policy ascending
!
vlan 104
 name Data
!
vlan 106
 name Voice
!
vlan 115
 name Management
!
vlan 999
 name Native
!
ip ssh version 2
!
class-map match-any MULTIMEDIA-STREAMING-QUEUE
 match dscp af31 af32 af33
class-map match-any CONTROL-MGMT-QUEUE
 match dscp cs7
 match dscp cs6
 match dscp cs3
 match dscp cs2
class-map match-any TRANSACTIONAL-DATA-QUEUE
 match dscp af21 af22 af23
class-map match-any SCAVENGER-QUEUE
 match dscp cs1
class-map match-any MULTIMEDIA-CONFERENCING-QUEUE
 match dscp af41 af42 af43
class-map match-any VOIP_SIGNAL_CLASS

```

```

 match cos 3
class-map match-any BULK-DATA-QUEUE
 match dscp af11 af12 af13
class-map match-any VOIP_DATA_CLASS
 match cos 5
class-map match-any PRIORITY-QUEUE
 match dscp ef
 match dscp cs5
 match dscp cs4
!
policy-map CISCOPHONE-POLICY
 class VOIP_DATA_CLASS
  set dscp ef
  police cir 128000 bc 8000
  conform-action transmit
  exceed-action drop
 class VOIP_SIGNAL_CLASS
  set dscp cs3
  police cir 32000 bc 8000
  conform-action transmit
  exceed-action drop
 class class-default
  set dscp default
  police cir 10000000 bc 8000
  conform-action transmit
  exceed-action set-dscp-transmit cs1
policy-map 1P7Q1T
 class PRIORITY-QUEUE
  priority
 class CONTROL-MGMT-QUEUE
  bandwidth remaining percent 10
 class MULTIMEDIA-CONFERENCING-QUEUE
  bandwidth remaining percent 10
 class MULTIMEDIA-STREAMING-QUEUE
  bandwidth remaining percent 10
 class TRANSACTIONAL-DATA-QUEUE
  bandwidth remaining percent 10

```

```

    db1
class BULK-DATA-QUEUE
    bandwidth remaining percent 4
    db1
class SCAVENGER-QUEUE
    bandwidth remaining percent 1
class class-default
    bandwidth remaining percent 25
    db1
!
!
!
interface Port-channel1
    switchport
    switchport trunk native vlan 999
    switchport trunk allowed vlan 104,106,115
    switchport mode trunk
    ip arp inspection trust
    logging event link-status
    flowcontrol receive on
    ip dhcp snooping trust
!
interface FastEthernet1
    ip vrf forwarding Mgmt-vrf
    no ip address
    shutdown
    speed auto
    duplex auto
!
interface TenGigabitEthernet3/1
    switchport trunk native vlan 999
    switchport trunk allowed vlan 104,106,115
    switchport mode trunk
    ip arp inspection trust
    macro description EgressQoS
    channel-protocol lacp
    channel-group 1 mode active

```

```

    service-policy output 1P7Q1T
    ip dhcp snooping trust
!
interface TenGigabitEthernet3/2
    switchport trunk native vlan 999
    switchport trunk allowed vlan 104,106,115
    switchport mode trunk
    ip arp inspection trust
    macro description EgressQoS
    channel-protocol lacp
    channel-group 1 mode active
    service-policy output 1P7Q1T
    ip dhcp snooping trust
!
interface GigabitEthernet3/3
!
interface GigabitEthernet3/4
!
interface GigabitEthernet3/5
!
interface GigabitEthernet3/6
!
interface range GigabitEthernet5/1-48
    switchport access vlan 104
    switchport mode access
    switchport voice vlan 106
    switchport host
    switchport port-security maximum 11
    switchport port-security
    switchport port-security aging time 2
    switchport port-security violation restrict
    switchport port-security aging type inactivity
    ip arp inspection limit rate 100
    macro apply AccessEdgeQoS
    spanning-tree bpduguard enable
    ip verify source vlan dhcp-snooping
    ip dhcp snooping limit rate 100

```

```

!
interface Vlan1
  no ip address
!
interface Vlan115
  description MANAGEMENT VLAN 115
  ip address 10.10.15.70 255.255.255.128
!
ip route 0.0.0.0 0.0.0.0 10.10.15.1
ip http server
ip http secure-server
!
!
!
logging trap errors
logging 10.10.48.35
access-list 55 permit 10.10.48.0 0.0.0.255
!
snmp-server community cisco RO
snmp-server community cisco123 RW 55
!
!
line con 0
  stopbits 1
line vty 0 4
  login local
  transport input ssh
line vty 5 15
  login local
  transport input ssh
!
ntp clock-period 17212803
ntp update-calendar
ntp server 10.10.48.17
end

```

局域网接入，Cisco Catalyst 3750X交换机

以下配置显示了一个包含两成员的96端口Cisco Catalyst 3750X堆叠，一个高性能局域网每个堆叠成员上的端口1-48针对终端设备进行了配置，然后增添了额外配置，来转换端口45-48，以用于无线接入点连接。

```

version 15.0
no service pad
service timestamps debug datetime msec
service timestamps log datetime msec
service password-encryption
!
hostname hq-a3750
!
boot-start-marker
boot-end-marker
!
!
enable secret 5 ![removed]
!
username admin privilege 15 password 7 ![removed]

no aaa new-model
clock timezone PST -8 0
clock summer-time PDT recurring
switch 1 provision ws-c3750x-48p
switch 2 provision ws-c3750x-48p
stack-mac persistent timer 0
system mtu routing 1500
ip arp inspection vlan 100,102
!
!
!
ip dhcp snooping vlan 100,102
no ip dhcp snooping information option
ip dhcp snooping

```

```

ip domain-name cisco.local
ip name-server 10.10.48.10
vtp mode transparent
udld enable

!
mls qos map policed-dscp 0 10 18 24 46 to 8
mls qos map cos-dscp 0 8 16 24 32 46 48 56
mls qos srr-queue input bandwidth 70 30
mls qos srr-queue input threshold 1 80 90
mls qos srr-queue input priority-queue 2 bandwidth 30
mls qos srr-queue input cos-map queue 1 threshold 2 3
mls qos srr-queue input cos-map queue 1 threshold 3 6 7
mls qos srr-queue input cos-map queue 2 threshold 1 4
mls qos srr-queue input dscp-map queue 1 threshold 2 24
mls qos srr-queue input dscp-map queue 1 threshold 3 48 49 50 51
52 53 54 55
mls qos srr-queue input dscp-map queue 1 threshold 3 56 57 58 59
60 61 62 63
mls qos srr-queue input dscp-map queue 2 threshold 3 32 33 40 41
42 43 44 45
mls qos srr-queue input dscp-map queue 2 threshold 3 46 47
mls qos srr-queue output cos-map queue 1 threshold 3 4 5
mls qos srr-queue output cos-map queue 2 threshold 1 2
mls qos srr-queue output cos-map queue 2 threshold 2 3
mls qos srr-queue output cos-map queue 2 threshold 3 6 7
mls qos srr-queue output cos-map queue 3 threshold 3 0
mls qos srr-queue output cos-map queue 4 threshold 3 1
mls qos srr-queue output dscp-map queue 1 threshold 3 32 33 40 41
42 43 44 45
mls qos srr-queue output dscp-map queue 1 threshold 3 46 47
mls qos srr-queue output dscp-map queue 2 threshold 1 16 17 18 19
20 21 22 23
mls qos srr-queue output dscp-map queue 2 threshold 1 26 27 28 29
30 31 34 35
mls qos srr-queue output dscp-map queue 2 threshold 1 36 37 38 39
mls qos srr-queue output dscp-map queue 2 threshold 2 24

```

```

mls qos srr-queue output dscp-map queue 2 threshold 3 48 49 50 51
52 53 54 55
mls qos srr-queue output dscp-map queue 2 threshold 3 56 57 58 59
60 61 62 63
mls qos srr-queue output dscp-map queue 3 threshold 3 0 1 2 3 4 5
6 7
mls qos srr-queue output dscp-map queue 4 threshold 1 8 9 11 13
15
mls qos srr-queue output dscp-map queue 4 threshold 2 10 12 14
mls qos queue-set output 1 threshold 1 100 100 50 200
mls qos queue-set output 1 threshold 2 125 125 100 400
mls qos queue-set output 1 threshold 3 100 100 100 400
mls qos queue-set output 1 threshold 4 60 150 50 200
mls qos queue-set output 1 buffers 15 25 40 20
mls qos
!
crypto pki trustpoint TP-self-signed-4271429248
  enrollment selfsigned
  subject-name cn=IOS-Self-Signed-Certificate-4271429248
  revocation-check none
  rsakeypair TP-self-signed-4271429248
!
!
crypto pki certificate chain TP-self-signed-4271429248
  certificate self-signed 01
    ![removed]
    quit
!
!
!
!
spanning-tree mode rapid-pvst
spanning-tree extend system-id
auto qos srnd4
!
!
!

```

```

port-channel load-balance src-dst-ip
!
vlan internal allocation policy ascending
!
vlan 100
    name Data
!
vlan 102
    name Voice
!
vlan 115
    name Management
!
vlan 999
    name Native
!
ip ssh version 2
!
class-map match-all AUTOQOS_VOIP_DATA_CLASS
    match ip dscp ef
class-map match-all AUTOQOS_DEFAULT_CLASS
    match access-group name AUTOQOS-ACL-DEFAULT
class-map match-all AUTOQOS_VOIP_SIGNAL_CLASS
    match ip dscp cs3
!
policy-map AUTOQOS-SRND4-CISCOPHONE-POLICY
    class AUTOQOS_VOIP_DATA_CLASS
        set dscp ef
        police 128000 8000 exceed-action policed-dscp-transmit
    class AUTOQOS_VOIP_SIGNAL_CLASS
        set dscp cs3
        police 32000 8000 exceed-action policed-dscp-transmit
    class AUTOQOS_DEFAULT_CLASS
        set dscp default
        police 10000000 8000 exceed-action policed-dscp-transmit
!
!

```

```

!
!
macro name AccessEdgeQoS
    auto qos voip cisco-phone
@
macro name EgressQoS
    mls qos trust dscp
    queue-set 2
    srr-queue bandwidth share 1 30 35 5
    priority-queue out
@
!
!
interface Port-channel1
    description Links to 6500VSS { Etherchannel }
    switchport trunk encapsulation dot1q
    switchport trunk native vlan 999
    switchport trunk allowed vlan 100,102,115
    switchport mode trunk
    ip arp inspection trust
    logging event link-status
    ip dhcp snooping trust
!
interface FastEthernet0
    no ip address
    shutdown
!
interface range GigabitEthernet1/0/1-48
    description Access ports for phones & PCs
    switchport access vlan 100
    switchport mode access
    switchport voice vlan 102
    switchport port-security maximum 11
    switchport port-security
    switchport port-security aging time 2
    switchport port-security violation restrict
    switchport port-security aging type inactivity

```

```

ip arp inspection limit rate 100
srr-queue bandwidth share 1 30 35 5
priority-queue out
mls qos trust device cisco-phone
mls qos trust cos
macro description AccessEdgeQoS
auto qos voip cisco-phone
spanning-tree portfast
spanning-tree bpduguard enable
service-policy input AUTOQOS-SRND4-CISCOPHONE-POLICY
ip verify source
ip dhcp snooping limit rate 100
!
interface range GigabitEthernet1/0/45-48
description Access ports for Wireless Access Points
mls qos trust dscp
!
interface GigabitEthernet1/1/1
!
interface GigabitEthernet1/1/2
description Links to 6500VSS { Etherchannel }
switchport trunk encapsulation dot1q
switchport trunk native vlan 999
switchport trunk allowed vlan 100,102,115
switchport mode trunk
ip arp inspection trust
srr-queue bandwidth share 1 30 35 5
queue-set 2
priority-queue out
mls qos trust dscp
macro description EgressQoS
channel-protocol lacp
channel-group 1 mode active
ip dhcp snooping trust
!
interface GigabitEthernet1/1/3
!

```

```

interface GigabitEthernet1/1/4
!
interface TenGigabitEthernet1/1/1
!
interface TenGigabitEthernet1/1/2
!
interface range GigabitEthernet2/0/1-48
description Access ports for phones & PCs
switchport access vlan 100
switchport mode access
switchport voice vlan 102
switchport port-security maximum 11
switchport port-security
switchport port-security aging time 2
switchport port-security violation restrict
switchport port-security aging type inactivity
ip arp inspection limit rate 100
srr-queue bandwidth share 1 30 35 5
priority-queue out
mls qos trust device cisco-phone
mls qos trust cos
macro description AccessEdgeQoS
auto qos voip cisco-phone
spanning-tree portfast
spanning-tree bpduguard enable
service-policy input AUTOQOS-SRND4-CISCOPHONE-POLICY
ip verify source
ip dhcp snooping limit rate 100
!
interface range GigabitEthernet2/0/45-48
description Access ports for Wireless Access Points
mls qos trust dscp
!
interface GigabitEthernet2/1/1
!
interface GigabitEthernet2/1/2
description Links to 6500VSS { Etherchannel }

```

```

switchport trunk encapsulation dot1q
switchport trunk native vlan 999
switchport trunk allowed vlan 100,102,115
switchport mode trunk
ip arp inspection trust
srr-queue bandwidth share 1 30 35 5
queue-set 2
priority-queue out
mls qos trust dscp
macro description EgressQoS
channel-protocol lacp
channel-group 1 mode active
ip dhcp snooping trust
!
interface GigabitEthernet2/1/3
!
interface GigabitEthernet2/1/4
!
interface TenGigabitEthernet2/1/1
!
interface TenGigabitEthernet2/1/2
!
interface Vlan1
no ip address
shutdown
!
interface Vlan115
description MANAGEMENT VLAN 115
ip address 10.10.15.65 255.255.255.128
!
ip default-gateway 10.10.15.1
ip http server
ip http secure-server
!
ip access-list extended AUTOQOS-ACL-DEFAULT
permit ip any any
logging esm config

```

```

logging trap errors
logging 10.10.48.35
access-list 55 permit 10.10.48.0 0.0.0.255
snmp-server community cisco RO
snmp-server community cisco123 RW 55
!
!
line con 0
line vty 0 4
login local
length 0
transport input ssh
line vty 5 15
login local
length 0
transport input ssh
!
ntp server 10.10.48.17
end

```

局域网接入，Cisco Catalyst 3560X交换机

以下配置显示了一个48端口Cisco Catalyst 3560X交换机，一个提供全部Cisco Catalyst接入交换机特性的高性能选项。该交换机上的端口1-48针对终端设备进行了配置，然后增添了额外配置，来转换端口45-48，以用于无线接入点连接。

```

version 15.0
no service pad
service timestamps debug datetime msec
service timestamps log datetime msec
service password-encryption
!
hostname hq-a3560
!
boot-start-marker
boot-end-marker

```

```

!
enable secret 5 ![removed]
!
username admin privilege 15 password 7 ![removed]
no aaa new-model
clock timezone PST -8 0
clock summer-time PDT recurring
system mtu routing 1500
ip arp inspection vlan 100,102
!
!
ip dhcp snooping vlan 100,102
no ip dhcp snooping information option
ip dhcp snooping
ip domain-name cisco.local
ip name-server 10.10.48.10
vtp mode transparent
udld enable
!
mls qos map policed-dscp 0 10 18 24 46 to 8
mls qos map cos-dscp 0 8 16 24 32 46 48 56
mls qos srr-queue input bandwidth 70 30
mls qos srr-queue input threshold 1 80 90
mls qos srr-queue input priority-queue 2 bandwidth 30
mls qos srr-queue input cos-map queue 1 threshold 2 3
mls qos srr-queue input cos-map queue 1 threshold 3 6 7
mls qos srr-queue input cos-map queue 2 threshold 1 4
mls qos srr-queue input dscp-map queue 1 threshold 2 24
mls qos srr-queue input dscp-map queue 1 threshold 3 48 49 50 51
52 53 54 55
mls qos srr-queue input dscp-map queue 1 threshold 3 56 57 58 59
60 61 62 63
mls qos srr-queue input dscp-map queue 2 threshold 3 32 33 40 41
42 43 44 45
mls qos srr-queue input dscp-map queue 2 threshold 3 46 47
mls qos srr-queue output cos-map queue 1 threshold 3 4 5
mls qos srr-queue output cos-map queue 2 threshold 1 2

```

```

mls qos srr-queue output cos-map queue 2 threshold 2 3
mls qos srr-queue output cos-map queue 2 threshold 3 6 7
mls qos srr-queue output cos-map queue 3 threshold 3 0
mls qos srr-queue output cos-map queue 4 threshold 3 1
mls qos srr-queue output dscp-map queue 1 threshold 3 32 33 40 41
42 43 44 45
mls qos srr-queue output dscp-map queue 1 threshold 3 46 47
mls qos srr-queue output dscp-map queue 2 threshold 1 16 17 18 19
20 21 22 23
mls qos srr-queue output dscp-map queue 2 threshold 1 26 27 28 29
30 31 34 35
mls qos srr-queue output dscp-map queue 2 threshold 1 36 37 38 39
mls qos srr-queue output dscp-map queue 2 threshold 2 24
mls qos srr-queue output dscp-map queue 2 threshold 3 48 49 50 51
52 53 54 55
mls qos srr-queue output dscp-map queue 2 threshold 3 56 57 58 59
60 61 62 63
mls qos srr-queue output dscp-map queue 3 threshold 3 0 1 2 3 4 5
6 7
mls qos srr-queue output dscp-map queue 4 threshold 1 8 9 11 13
15
mls qos srr-queue output dscp-map queue 4 threshold 2 10 12 14
mls qos queue-set output 1 threshold 1 100 100 50 200
mls qos queue-set output 1 threshold 2 125 125 100 400
mls qos queue-set output 1 threshold 3 100 100 100 400
mls qos queue-set output 1 threshold 4 60 150 50 200
mls qos queue-set output 1 buffers 15 25 40 20
mls qos
!
crypto pki trustpoint TP-self-signed-4266437376
  enrollment selfsigned
  subject-name cn=IOS-Self-Signed-Certificate-4266437376
  revocation-check none
  rsakeypair TP-self-signed-4266437376
!
!
crypto pki certificate chain TP-self-signed-4266437376

```

```

certificate self-signed 01
  ![removed]
  quit
!
!
!
!
spanning-tree mode rapid-pvst
spanning-tree extend system-id
auto qos srnd4
!
!
!
port-channel load-balance src-dst-ip
!
vlan internal allocation policy ascending
!
vlan 100
  name Data
!
vlan 102
  name Voice
!
vlan 115
  name Management
!
vlan 999
  name Native
!
ip ssh version 2
!
class-map match-all AUTOQOS_VOIP_DATA_CLASS
  match ip dscp ef
class-map match-all AUTOQOS_DEFAULT_CLASS
  match access-group name AUTOQOS-ACL-DEFAULT
class-map match-all AUTOQOS_VOIP_SIGNAL_CLASS
  match ip dscp cs3

```

```

!
policy-map AUTOQOS-SRND4-CISCOPHONE-POLICY
  class AUTOQOS_VOIP_DATA_CLASS
    set dscp ef
    police 128000 8000 exceed-action policed-dscp-transmit
  class AUTOQOS_VOIP_SIGNAL_CLASS
    set dscp cs3
    police 32000 8000 exceed-action policed-dscp-transmit
  class AUTOQOS_DEFAULT_CLASS
    set dscp default
    police 10000000 8000 exceed-action policed-dscp-transmit
!
!
!
!
!
macro name AccessEdgeQoS
auto qos voip cisco-phone
@
macro name EgressQoS
mls qos trust dscp
queue-set 2
srr-queue bandwidth share 1 30 35 5
priority-queue out
@
!
!
interface Port-channel1
  description Links to 6500VSS { Etherchannel }
  switchport trunk encapsulation dot1q
  switchport trunk native vlan 999
  switchport trunk allowed vlan 100,102,115
  switchport mode trunk
  ip arp inspection trust
  logging event link-status
  ip dhcp snooping trust
!
interface FastEthernet0

```

```

no ip address
shutdown
!
interface range GigabitEthernet0/1-48
description Access ports for phones & PCs
switchport access vlan 100
switchport mode access
switchport voice vlan 102
switchport port-security maximum 11
switchport port-security
switchport port-security aging time 2
switchport port-security violation restrict
switchport port-security aging type inactivity
ip arp inspection limit rate 100
srr-queue bandwidth share 1 30 35 5
priority-queue out
mls qos trust device cisco-phone
mls qos trust cos
macro description AccessEdgeQoS
auto qos voip cisco-phone
spanning-tree portfast
spanning-tree bpduguard enable
service-policy input AUTOQOS-SRND4-CISCOPHONE-POLICY
ip verify source
ip dhcp snooping limit rate 100
!
interface range GigabitEthernet0/45-48
description Access ports for Wireless Access Points
mls qos trust dscp
!
interface GigabitEthernet1/1
description Links to 6500VSS { Etherchannel }
switchport trunk encapsulation dot1q
switchport trunk native vlan 999
switchport trunk allowed vlan 100,102,115
switchport mode trunk
ip arp inspection trust

```

```

srr-queue bandwidth share 1 30 35 5
queue-set 2
priority-queue out
mls qos trust dscp
macro description EgressQoS
channel-protocol lacp
channel-group 1 mode active
ip dhcp snooping trust
!
interface GigabitEthernet1/2
!
interface GigabitEthernet1/3
description Links to 6500VSS { Etherchannel }
switchport trunk encapsulation dot1q
switchport trunk native vlan 999
switchport trunk allowed vlan 100,102,115
switchport mode trunk
ip arp inspection trust
srr-queue bandwidth share 1 30 35 5
queue-set 2
priority-queue out
mls qos trust dscp
macro description EgressQoS
channel-protocol lacp
channel-group 1 mode active
ip dhcp snooping trust
!
interface GigabitEthernet1/4
!
interface TenGigabitEthernet1/1
!
interface TenGigabitEthernet1/2
!
interface Vlan1
no ip address
shutdown
!

```

```

interface Vlan115
  description MANAGEMENT VLAN 115
  ip address 10.10.15.55 255.255.255.128
!
ip default-gateway 10.10.15.1
ip http server
ip http secure-server
!
!
ip access-list extended AUTOQOS-ACL-DEFAULT
  permit ip any any
!
logging esm config
logging trap errors
logging 10.10.48.35
access-list 55 permit 10.10.48.0 0.0.0.255
snmp-server community cisco RO
snmp-server community cisco123 RW 55
!
!
line con 0
line vty 0 4
  login local
  length 0
  transport input ssh
line vty 5 15
  login local
  length 0
  transport input ssh
!
ntp server 10.10.48.17
end

```

局域网接入，Cisco Catalyst 2960S交换机

以下配置显示了一个包含两成员的96端口Cisco Catalyst 2960S堆叠，为局域网接入交换机提供了一个低成本的高性能选项，包括永续的堆叠功能。每个堆叠成员上的端口1-48针对终端设备进行了配置，然后增添了额外配置，来转换端口45-48，以用于无线接入点连接。

```

version 15.0
no service pad
service timestamps debug datetime msec
service timestamps log datetime msec
service password-encryption
!
hostname hq-a2960s
!
boot-start-marker
boot-end-marker
!
enable secret 5 ![removed]
!
username admin privilege 15 password 7 ![removed]
no aaa new-model
clock timezone PST -8 0
clock summer-time PDT recurring
switch 1 provision ws-c2960s-48fps-1
switch 2 provision ws-c2960s-48fps-1
stack-mac persistent timer 0
ip arp inspection vlan 100,102
!
!
ip dhcp snooping vlan 100,102
no ip dhcp snooping information option
ip dhcp snooping
ip domain-name cisco.local
ip name-server 10.10.48.10
vtp mode transparent
udld enable

```

```

!
mls qos map policed-dscp 0 10 18 24 46 to 8
mls qos map cos-dscp 0 8 16 24 32 46 48 56
mls qos srr-queue output cos-map queue 1 threshold 3 4 5
mls qos srr-queue output cos-map queue 2 threshold 1 2
mls qos srr-queue output cos-map queue 2 threshold 2 3
mls qos srr-queue output cos-map queue 2 threshold 3 6 7
mls qos srr-queue output cos-map queue 3 threshold 3 0
mls qos srr-queue output cos-map queue 4 threshold 3 1
mls qos srr-queue output dscp-map queue 1 threshold 3 32 33 40 41
42 43 44 45
mls qos srr-queue output dscp-map queue 1 threshold 3 46 47
mls qos srr-queue output dscp-map queue 2 threshold 1 16 17 18 19
20 21 22 23
mls qos srr-queue output dscp-map queue 2 threshold 1 26 27 28 29
30 31 34 35
mls qos srr-queue output dscp-map queue 2 threshold 1 36 37 38 39
mls qos srr-queue output dscp-map queue 2 threshold 2 24
mls qos srr-queue output dscp-map queue 2 threshold 3 48 49 50 51
52 53 54 55
mls qos srr-queue output dscp-map queue 2 threshold 3 56 57 58 59
60 61 62 63
mls qos srr-queue output dscp-map queue 3 threshold 3 0 1 2 3 4 5
6 7
mls qos srr-queue output dscp-map queue 4 threshold 1 8 9 11 13
15
mls qos srr-queue output dscp-map queue 4 threshold 2 10 12 14
mls qos queue-set output 1 threshold 1 100 100 50 200
mls qos queue-set output 1 threshold 2 125 125 100 400
mls qos queue-set output 1 threshold 3 100 100 100 400
mls qos queue-set output 1 threshold 4 60 150 50 200
mls qos queue-set output 1 buffers 15 25 40 20
mls qos
!
crypto pki trustpoint TP-self-signed-1292739584
enrollment selfsigned

```

```

subject-name cn=IOS-Self-Signed-Certificate-1292739584
revocation-check none
rsakeypair TP-self-signed-1292739584
!
!
crypto pki certificate chain TP-self-signed-1292739584
certificate self-signed 01
    ![removed]
quit
!
spanning-tree mode rapid-pvst
spanning-tree extend system-id
auto qos srnd4
!
!
!
port-channel load-balance src-dst-ip
!
vlan internal allocation policy ascending
!
vlan 100
    name Data
!
vlan 102
    name Voice
!
vlan 115
    name Management
!
vlan 999
    name Native
!
ip ssh version 2
!
class-map match-all AUTOQOS_VOIP_DATA_CLASS
    match ip dscp ef
class-map match-all AUTOQOS_DEFAULT_CLASS

```

```

    match access-group name AUTOQOS-ACL-DEFAULT
class-map match-all AUTOQOS_VOIP_SIGNAL_CLASS
    match ip dscp cs3
!
policy-map AUTOQOS-SRND4-CISCOPHONE-POLICY
    class AUTOQOS_VOIP_DATA_CLASS
        set dscp ef
        police 128000 8000 exceed-action policed-dscp-transmit
    class AUTOQOS_VOIP_SIGNAL_CLASS
        set dscp cs3
        police 32000 8000 exceed-action policed-dscp-transmit
    class AUTOQOS_DEFAULT_CLASS
        set dscp default
        police 10000000 8000 exceed-action policed-dscp-transmit
!
!
!
!
macro name AccessEdgeQoS
auto qos voip cisco-phone
@
macro name EgressQoS
mls qos trust dscp
queue-set 2
srr-queue bandwidth share 1 30 35 5
priority-queue out
@
!
!
interface Port-channel1
    description Links to 6500VSS { Etherchannel }
    switchport trunk native vlan 999
    switchport trunk allowed vlan 100,102,115
    switchport mode trunk
    ip arp inspection trust
    logging event link-status
    ip dhcp snooping trust

```

```

!
!
interface FastEthernet0
    no ip address
    shutdown
!
interface range GigabitEthernet1/0/1-48
    description Access ports for phones & PCs
    switchport access vlan 100
    switchport mode access
    switchport voice vlan 102
    switchport port-security maximum 11
    switchport port-security
    switchport port-security aging time 2
    switchport port-security violation restrict
    switchport port-security aging type inactivity
    ip arp inspection trust
    ip arp inspection limit rate 100
    srr-queue bandwidth share 1 30 35 5
    priority-queue out
    mls qos trust device cisco-phone
    mls qos trust cos
    macro description AccessEdgeQoS
    auto qos voip cisco-phone
    spanning-tree portfast
    spanning-tree bpduguard enable
    service-policy input AUTOQOS-SRND4-CISCOPHONE-POLICY
    ip verify source
    ip dhcp snooping limit rate 100
!
interface range GigabitEthernet1/0/45-48
    description Access ports for Wireless Access Points
    mls qos trust dscp
!
interface GigabitEthernet1/0/49
    description Links to 6500VSS { Etherchannel }
    switchport trunk native vlan 999

```

```

switchport trunk allowed vlan 100,102,115
switchport mode trunk
ip arp inspection trust
srr-queue bandwidth share 1 30 35 5
queue-set 2
priority-queue out
mls qos trust dscp
macro description EgressQoS
channel-protocol lacp
channel-group 1 mode active
ip dhcp snooping trust
!
interface GigabitEthernet1/0/50
!
interface GigabitEthernet1/0/51
!
interface GigabitEthernet1/0/52
!
interface range GigabitEthernet2/0/1-48
description Access ports for phones & PCs
switchport access vlan 100
switchport mode access
switchport voice vlan 102
switchport port-security maximum 11
switchport port-security
switchport port-security aging time 2
switchport port-security violation restrict
switchport port-security aging type inactivity
ip arp inspection trust
ip arp inspection limit rate 100
srr-queue bandwidth share 1 30 35 5
priority-queue out
mls qos trust device cisco-phone
mls qos trust cos
macro description AccessEdgeQoS
auto qos voip cisco-phone
spanning-tree portfast

```

```

spanning-tree bpduguard enable
service-policy input AUTOQOS-SRND4-CISCOPHONE-POLICY
ip verify source
ip dhcp snooping limit rate 100
!
interface range GigabitEthernet2/0/45-48
description Access ports for Wireless Access Points
mls qos trust dscp
!
interface GigabitEthernet2/0/49
description Links to 6500VSS { Etherchannel }
switchport trunk native vlan 999
switchport trunk allowed vlan 100,102,115
switchport mode trunk
ip arp inspection trust
srr-queue bandwidth share 1 30 35 5
queue-set 2
priority-queue out
mls qos trust dscp
macro description EgressQoS
channel-protocol lacp
channel-group 1 mode active
ip dhcp snooping trust
!
interface GigabitEthernet2/0/50
!
interface GigabitEthernet2/0/51
!
interface GigabitEthernet2/0/52
!
interface Vlan1
no ip address
shutdown
!
interface Vlan115
description MANAGEMENT VLAN 115
ip address 10.10.15.60 255.255.255.128

```

```
!  
ip default-gateway 10.10.15.1  
ip http server  
ip http secure-server  
!  
!  
ip access-list extended AUTOQOS-ACL-DEFAULT  
    permit ip any any  
logging esm config  
logging trap errors  
logging 10.10.48.35  
access-list 55 permit 10.10.48.0 0.0.0.255  
snmp-server community cisco RO  
snmp-server community cisco123 RW 55  
!  
line con 0  
line vty 0 4  
    exec-timeout 0 0  
    login local  
    transport input ssh  
line vty 5 15  
    exec-timeout 0 0  
    login local  
    transport input ssh  
!  
ntp server 10.10.48.17  
end
```

备 注

对于覆盖多达75个远程站点的广域网，或者为实现现在总部的更高汇聚吞吐量，推荐使用一个Cisco ISR G2 3945。对于最多覆盖25个远程站点的较小型广域网，Cisco ISR G2 3925可提供低成本的选择，具有同等线路配置。

2012年上半年 广域网：总部路由器 51

广域网：总部路由器 51

```

!
!
username admin privilege 15 password 7 ![removed]
!
redundancy
!
!
!
!
!
ip ssh source-interface Loopback0
ip ssh version 2
!
class-map match-any DATA
  match ip dscp af21
class-map match-any INTERACTIVE-VIDEO
  match dscp cs4 af41
class-map match-any CRITICAL-DATA
  match dscp cs3 af31
class-map match-any VOICE
  match dscp ef
class-map match-any SCAVENGER
  match ip dscp cs1 af11
class-map match-any NETWORK-CRITICAL
  match ip dscp cs2 cs6
!
!
policy-map WAN
  class VOICE
    priority percent 10
  class INTERACTIVE-VIDEO
    priority percent 23
  class CRITICAL-DATA
    bandwidth percent 15
    random-detect dscp-based
  class DATA
    bandwidth percent 19

```

```

    random-detect dscp-based
  class SCAVENGER
    bandwidth percent 5
  class NETWORK-CRITICAL
    bandwidth percent 3
  class class-default
    bandwidth percent 25
    random-detect
policy-map WAN-QOS-POLICY
  class class-default
    shape average 10000000
    service-policy WAN
!
!
!
!
!
!
interface Loopback0
  ip address 10.10.32.254 255.255.255.255
  ip pim sparse-mode
!
interface Port-channel32
  ip address 10.10.32.126 255.255.255.128
  ip wccp 61 redirect in
  ip pim sparse-mode
  hold-queue 150 in
!
interface GigabitEthernet0/0
  description MPLS WAN uplink
  ip address 192.168.6.129 255.255.255.252
  ip wccp 62 redirect in
  ip pim sparse-mode
  duplex auto
  speed auto

```

```

service-policy output WAN-QOS-POLICY
!
interface GigabitEthernet0/1
no ip address
duplex auto
speed auto
channel-group 32
!
interface GigabitEthernet0/2
no ip address
duplex auto
speed auto
channel-group 32
!
!
!
!
router eigrp 1
network 10.10.0.0 0.0.255.255
redistribute static metric 50000 100 255 1 1500
passive-interface GigabitEthernet0/0
!
ip forward-protocol nd
!
ip pim rp-address 10.10.15.252 10
ip pim register-source Loopback0
no ip http server
ip http secure-server
!
ip route 10.11.0.0 255.255.0.0 192.168.6.130
ip route 192.168.6.128 255.255.255.224 192.168.6.130
!
ip access-list standard BN-WAE
permit 10.10.32.10
permit 10.10.50.10
!
ip access-list extended WAAS-REDIRECT-LIST
remark WAAS WCCP Redirect Exempt/Permit List

```

```

deny tcp any any eq 22
deny tcp any eq 22 any
deny tcp any any eq 123
deny tcp any eq 123 any
permit tcp any any
!
logging 10.10.48.35
access-list 10 permit 239.1.0.0 0.0.255.255
access-list 55 permit 10.10.48.0 0.0.0.255
!
!
!
!
snmp-server community cisco RO 55
snmp-server community cisco123 RW 55
snmp-server trap-source Loopback0
!
control-plane
!
!
!
gatekeeper
shutdown
!
!
!
line con 0
line aux 0
line 2
login local
no activation-character
no exec
transport preferred none
transport input all
transport output lat pad telnet rlogin lapb-ta mop udptn v120
ssh
stopbits 1
line vty 0 4

```

```
exec-timeout 120 0
login local
transport input ssh
line vty 5 15
login local
transport input ssh
!
scheduler allocate 20000 1000
ntp source Loopback0
ntp update-calendar
ntp server 10.10.48.17
end
```

备 注

广域网： 远程站点路由器

远程站点1，广域网路由器，Cisco ISR G2 2951

此ISR G2 2951远程站点配置推荐用于大型远程站点办公室。此处所示的路由器配置包括一个用于永续型局域网交换机堆叠的多链路以太网通道(etherchannel)连接。

```
version 15.1
service timestamps debug datetime msec
service timestamps log datetime msec
service password-encryption
!
hostname Br1-ISR2951
!
boot-start-marker
boot-end-marker
!
!
enable secret 5 ![removed]
!
no aaa new-model
!
clock timezone PST -8 0
clock summer-time PDT recurring
!
crypto pki token default removal timeout 0
!
crypto pki trustpoint TP-self-signed-4233999137
  enrollment selfsigned
  subject-name cn=IOS-Self-Signed-Certificate-4233999137
  revocation-check none
  rsakeypair TP-self-signed-4233999137
!
```

```
!
crypto pki certificate chain TP-self-signed-4233999137
  certificate self-signed 01 nvram:IOS-Self-Sig#2.cer
no ipv6 cef
ipv6 spd queue min-threshold 62
ipv6 spd queue max-threshold 63
ip source-route
ip cef
!
!
!
ip multicast-routing
ip dhcp excluded-address 10.11.4.1 10.11.4.10
ip dhcp excluded-address 10.11.5.1 10.11.5.10
ip dhcp excluded-address 10.11.2.1 10.11.2.10
ip dhcp excluded-address 10.11.3.1 10.11.3.10
!
ip dhcp pool wired-data
  network 10.11.4.0 255.255.255.0
  default-router 10.11.4.1
  domain-name cisco.local
  dns-server 10.10.48.10
!
ip dhcp pool wired-voice
  network 10.11.5.0 255.255.255.0
  default-router 10.11.5.1
  domain-name cisco.local
  dns-server 10.10.48.10
!
ip dhcp pool wireless-data
  network 10.11.2.0 255.255.255.0
  default-router 10.11.2.1
  domain-name cisco.local
  dns-server 10.10.48.10
!
ip dhcp pool wireless-voice
  network 10.11.3.0 255.255.255.0
```

```

default-router 10.11.3.1
domain-name cisco.local
dns-server 10.10.48.10
!
!
ip domain name cisco.local
ip name-server 10.10.48.10
ip wccp 61 redirect-list WAAS-REDIRECT-LIST group-list BN-WAE
password 7 ![removed]
ip wccp 62 redirect-list WAAS-REDIRECT-LIST group-list BN-WAE
password 7 ![removed]
!
!
!
!
!
!
!
!
!
!
license udi pid CISCO2951/K9 sn ![removed]
!
!
!
username admin privilege 15 password 5 ![removed]
!
redundancy
!
!
!
!
ip ssh source-interface Loopback0
ip ssh version 2
!
class-map match-any DATA
match ip dscp af21

```

```

class-map match-any INTERACTIVE-VIDEO
match dscp cs4 af41
class-map match-any CRITICAL-DATA
match dscp cs3 af31
class-map match-any VOICE
match dscp ef
class-map match-any SCAVENGER
match ip dscp cs1 af11
class-map match-any NETWORK-CRITICAL
match ip dscp cs2 cs6
!
!
policy-map WAN
class VOICE
priority percent 10
class INTERACTIVE-VIDEO
priority percent 23
class CRITICAL-DATA
bandwidth percent 15
random-detect dscp-based
class DATA
bandwidth percent 19
random-detect dscp-based
class SCAVENGER
bandwidth percent 5
class NETWORK-CRITICAL
bandwidth percent 3
class class-default
bandwidth percent 25
random-detect
policy-map WAN-QOS-POLICY
class class-default
shape average 10000000
service-policy WAN
!
!
!

```

```

!
!
!
!
!
interface Loopback0
 ip address 10.11.0.1 255.255.255.255
 ip pim sparse-mode
!
interface Port-channel1
 description Links to Br1-3750X
 no ip address
 hold-queue 150 in
!
interface Port-channel1.64
 description Wired Data
 encapsulation dot1Q 64
 ip address 10.11.4.1 255.255.255.0
 ip wccp 61 redirect in
 ip pim sparse-mode
!
interface Port-channel1.65
 description Wireless Data
 encapsulation dot1Q 65
 ip address 10.11.2.1 255.255.255.0
 ip wccp 61 redirect in
 ip pim sparse-mode
!
interface Port-channel1.69
 description Wired Voice
 encapsulation dot1Q 69
 ip address 10.11.5.1 255.255.255.0
 ip pim sparse-mode
!
interface Port-channel1.70
 description Wireless Voice
 encapsulation dot1Q 70

```

```

 ip address 10.11.3.1 255.255.255.0
 ip pim sparse-mode
!
interface Embedded-Service-Engine0/0
 no ip address
!
interface GigabitEthernet0/0
 description MPLS WAN Uplink
 ip address 192.168.6.133 255.255.255.252
 ip wccp 62 redirect in
 ip pim sparse-mode
 duplex auto
 speed auto
 service-policy output WAN-QOS-POLICY
!
interface GigabitEthernet0/1
 description Links to Br1-3750X
 no ip address
 duplex auto
 speed auto
 channel-group 1
!
interface GigabitEthernet0/2
 description Links to Br1-3750X
 no ip address
 duplex auto
 speed auto
 channel-group 1
!
interface SM1/0
 ip address 1.1.1.1 255.255.255.252
 service-module external ip address 10.11.4.8 255.255.255.0
 service-module ip default-gateway 10.11.4.1
!
 ip forward-protocol nd
!
 ip pim rp-address 10.10.15.252 10

```

```

ip pim register-source Loopback0
ip http server
ip http secure-server
!
ip route 0.0.0.0 0.0.0.0 192.168.6.134
!
ip access-list standard BN-WAE
    permit 10.11.4.8
!
ip access-list extended WAAS-REDIRECT-LIST
    remark WAAS WCCP Mgmt Redirect List
    deny    tcp any any eq 22
    deny    tcp any eq 22 any
    deny    tcp any any eq 123
    deny    tcp any eq 123 any
    permit  tcp any any
!
access-list 10 permit 239.1.0.0 0.0.255.255
!
!
!
!
snmp-server community cisco RO
snmp-server community cisco123 RW
snmp-server trap-source Loopback0
!
control-plane
!
!
!
gatekeeper
    shutdown
!
!
!
line con 0
line aux 0

```

```

line 2
    no activation-character
    no exec
    transport preferred none
    transport input all
    transport output lat pad telnet rlogin lapb-ta mop udptn v120
ssh
    stopbits 1
line vty 0 4
    login local
    transport input ssh
line vty 5 15
    login local
    transport input ssh
!
scheduler allocate 20000 1000
ntp source Loopback0
ntp update-calendar
ntp server 10.10.48.17
end

```

远程站点1，局域网交换机，Cisco Catalyst 3750X

以下配置显示了一个包含两成员、48端口Cisco Catalyst 3750X堆叠，一个高性能局域网接入交换机选项，提供了全部Cisco Catalyst接入交换机特性和永续的堆叠功能。该交换机堆叠通过一个双链路EtherChannel中继(trunk)连接到广域网路由器，连接在两个堆叠成员的端口24上。两个堆叠成员的端口1-19被配置用于终端设备。两个堆叠成员上的端口20-23被配置用于H-REAP无线接入点连接。

```

version 15.0
no service pad
service timestamps debug datetime msec
service timestamps log datetime msec
service password-encryption
!
hostname Br1-A3750X

```

```

!
boot-start-marker
boot-end-marker
!
!
enable secret 5 ![removed]
!
username admin privilege 15 password 7 ![removed]
no aaa new-model
clock timezone PST -8 0
clock summer-time PDT recurring
switch 1 provision ws-c3750x-24p
switch 2 provision ws-c3750x-24p
stack-mac persistent timer 0
system mtu routing 1500
!
ip arp inspection vlan 64,69
!
!
!
ip dhcp snooping vlan 64,69
no ip dhcp snooping information option
ip dhcp snooping
ip domain-name cisco.local
ip name-server 10.10.48.10
ip device tracking
vtp mode transparent
udld enable

!
mls qos map policed-dscp 0 10 18 24 46 to 8
mls qos map cos-dscp 0 8 16 24 32 46 48 56
mls qos srr-queue input bandwidth 70 30
mls qos srr-queue input threshold 1 80 90
mls qos srr-queue input priority-queue 2 bandwidth 30
mls qos srr-queue input cos-map queue 1 threshold 2 3
mls qos srr-queue input cos-map queue 1 threshold 3 6 7

```

```

mls qos srr-queue input cos-map queue 2 threshold 1 4
mls qos srr-queue input dscp-map queue 1 threshold 2 24
mls qos srr-queue input dscp-map queue 1 threshold 3 48 49 50 51
52 53 54 55
mls qos srr-queue input dscp-map queue 1 threshold 3 56 57 58 59
60 61 62 63
mls qos srr-queue input dscp-map queue 2 threshold 3 32 33 40 41
42 43 44 45
mls qos srr-queue input dscp-map queue 2 threshold 3 46 47
mls qos srr-queue output cos-map queue 1 threshold 3 4 5
mls qos srr-queue output cos-map queue 2 threshold 1 2
mls qos srr-queue output cos-map queue 2 threshold 2 3
mls qos srr-queue output cos-map queue 2 threshold 3 6 7
mls qos srr-queue output cos-map queue 3 threshold 3 0
mls qos srr-queue output cos-map queue 4 threshold 3 1
mls qos srr-queue output dscp-map queue 1 threshold 3 32 33 40 41
42 43 44 45
mls qos srr-queue output dscp-map queue 1 threshold 3 46 47
mls qos srr-queue output dscp-map queue 2 threshold 1 16 17 18 19
20 21 22 23
mls qos srr-queue output dscp-map queue 2 threshold 1 26 27 28 29
30 31 34 35
mls qos srr-queue output dscp-map queue 2 threshold 1 36 37 38 39
mls qos srr-queue output dscp-map queue 2 threshold 2 24
mls qos srr-queue output dscp-map queue 2 threshold 3 48 49 50 51
52 53 54 55
mls qos srr-queue output dscp-map queue 2 threshold 3 56 57 58 59
60 61 62 63
mls qos srr-queue output dscp-map queue 3 threshold 3 0 1 2 3 4 5
6 7
mls qos srr-queue output dscp-map queue 4 threshold 1 8 9 11 13
15
mls qos srr-queue output dscp-map queue 4 threshold 2 10 12 14
mls qos queue-set output 1 threshold 1 100 100 50 200
mls qos queue-set output 1 threshold 2 125 125 100 400
mls qos queue-set output 1 threshold 3 100 100 100 400
mls qos queue-set output 1 threshold 4 60 150 50 200

```

```

mls qos queue-set output 1 buffers 15 25 40 20
mls qos
!
crypto pki trustpoint TP-self-signed-4270929920
  enrollment selfsigned
  subject-name cn=IOS-Self-Signed-Certificate-4270929920
  revocation-check none
  rsakeypair TP-self-signed-4270929920
!
!
crypto pki certificate chain TP-self-signed-4270929920
  certificate self-signed 01
license boot level ipservices
license boot level ipservices switch 2
!
!
!
!
spanning-tree mode rapid-pvst
spanning-tree extend system-id
auto qos srnd4
!
!
!
port-channel load-balance src-dst-ip
!
vlan internal allocation policy ascending
!
vlan 64
  name Wired-Data
!
vlan 65
  name Wireless-Data
!
vlan 69
  name Wired-Voice
!

```

```

vlan 70
  name Wireless-Voice
!
vlan 999
  name Native
!
ip ssh version 2
!
class-map match-any DATA
  match ip dscp af21
class-map match-any INTERACTIVE-VIDEO
  match ip dscp cs4  af41
class-map match-any CRITICAL-DATA
  match ip dscp cs3  af31
class-map match-all AUTOQOS_VOIP_DATA_CLASS
  match ip dscp ef
class-map match-all AUTOQOS_DEFAULT_CLASS
  match access-group name AUTOQOS-ACL-DEFAULT
class-map match-all AUTOQOS_VOIP_SIGNAL_CLASS
  match ip dscp cs3
class-map match-any VOICE
  match ip dscp ef
class-map match-any SCAVENGER
  match ip dscp cs1  af11
!
policy-map AUTOQOS-SRND4-CISCOPHONE-POLICY
  class AUTOQOS_VOIP_DATA_CLASS
    set dscp ef
    police 128000 8000 exceed-action policed-dscp-transmit
  class AUTOQOS_VOIP_SIGNAL_CLASS
    set dscp cs3
    police 32000 8000 exceed-action policed-dscp-transmit
  class AUTOQOS_DEFAULT_CLASS
    set dscp default
    police 10000000 8000 exceed-action policed-dscp-transmit
!
!

```

```

!
!
!
macro name AccessEdgeQoS
auto qos voip cisco-phone
@
macro name EgressQoS
mls qos trust dscp
queue-set 2
srr-queue bandwidth share 1 30 35 5
priority-queue out
@
!
!
interface Port-channel1
description Links to br1-isr2951 { Etherchannel }
switchport trunk encapsulation dot1q
switchport trunk native vlan 999
switchport trunk allowed vlan 64,65,69,70
switchport mode trunk
ip arp inspection trust
logging event link-status
ip dhcp snooping trust
!
interface FastEthernet0
no ip address
shutdown
!
interface range GigabitEthernet1/0/1-19,GigabitEthernet2/0/1-19
switchport access vlan 64
switchport mode access
switchport voice vlan 69
switchport port-security maximum 11
switchport port-security
switchport port-security aging time 2
switchport port-security violation restrict
switchport port-security aging type inactivity

```

```

ip arp inspection limit rate 100
srr-queue bandwidth share 1 30 35 5
priority-queue out
mls qos trust device cisco-phone
mls qos trust cos
macro description AccessEdgeQoS
auto qos voip cisco-phone
spanning-tree portfast
spanning-tree bpduguard enable
service-policy input AUTOQOS-SRND4-CISCOPHONE-POLICY
ip verify source
ip dhcp snooping limit rate 100
!
interface range GigabitEthernet1/0/20-23,GigabitEthernet2/0/20-23
description HREAP Access Point Connection
switchport trunk encapsulation dot1q
switchport trunk native vlan 64
switchport trunk allowed vlan 64,65,70
switchport mode trunk
switchport port-security maximum 255
ip arp inspection trust
srr-queue bandwidth share 1 30 35 5
priority-queue out
mls qos trust dscp
auto qos trust dscp
spanning-tree portfast trunk
ip dhcp snooping trust
!
interface range GigabitEthernet1/0/24,GigabitEthernet2/0/24
description Links to br1-isr2951
switchport trunk encapsulation dot1q
switchport trunk native vlan 999
switchport trunk allowed vlan 64,65,69,70
switchport mode trunk
ip arp inspection trust
srr-queue bandwidth share 1 30 35 5
queue-set 2

```

```

priority-queue out
mls qos trust dscp
macro description EgressQoS
channel-group 1 mode on
ip dhcp snooping trust
!
interface Vlan1
no ip address
shutdown
!
interface Vlan64
ip address 10.11.4.5 255.255.255.0
!
ip default-gateway 10.11.4.1
!
ip http server
ip http authentication local
no ip http secure-server
ip http timeout-policy idle 60 life 86400 requests 10000
!
!
ip access-list extended AUTOQOS-ACL-DEFAULT
permit ip any any
!
logging esm config
logging trap errors
logging 10.10.48.35
access-list 55 permit 10.10.48.0 0.0.0.255
!
snmp-server community cisco RO 55
snmp-server community cisco123 RW
!
!
line con 0
line vty 0 4
exec-timeout 0 0
login local

```

```

length 0
transport input ssh
line vty 5 15
exec-timeout 0 0
login local
length 0
transport input ssh
!
ntp server 10.10.48.17
end

```

远程站点2，广域网路由器，Cisco ISR G2 2921

此ISR G2 2921远程站点配置推荐用于中型远程站点办公室。该路由器配置包括一个单链路以太网连接，用于单机箱局域网交换机。

```

version 15.1
service timestamps debug datetime msec
service timestamps log datetime msec
service password-encryption
!
hostname Br2-ISR2921
!
boot-start-marker
boot-end-marker
!
!
enable secret 5 ![removed]
!
no aaa new-model
clock timezone PST -8 0
clock summer-time PDT recurring
!
clock timezone PST -8 0
clock summer-time PDT recurring
!

```

```

no ipv6 cef
ipv6 spd queue min-threshold 62
ipv6 spd queue max-threshold 63
ip source-route
ip cef
!
!
!
ip multicast-routing
ip dhcp excluded-address 10.11.12.1 10.11.12.10
ip dhcp excluded-address 10.11.13.1 10.11.13.10
ip dhcp excluded-address 10.11.10.1 10.11.10.10
ip dhcp excluded-address 10.11.11.1 10.11.11.10
!
ip dhcp pool wired_data
network 10.11.12.0 255.255.255.0
dns-server 10.10.48.10
domain-name cisco.local
default-router 10.11.12.1
!
ip dhcp pool wired_voice
network 10.11.13.0 255.255.255.0
dns-server 10.10.48.10
default-router 10.11.13.1
domain-name cisco.local
!
ip dhcp pool wireless-data
network 10.11.10.0 255.255.255.0
default-router 10.11.10.1
domain-name cisco.local
dns-server 10.10.48.10
!
ip dhcp pool wireless-voice
network 10.11.11.0 255.255.255.0
default-router 10.11.11.1
domain-name cisco.local
dns-server 10.10.48.10

```

```

!
!
ip domain name cisco.local
ip name-server 10.10.48.10
ip wccp 61 redirect-list WAAS-REDIRECT-LIST group-list BN-WAE
password 7 ![removed]
ip wccp 62 redirect-list WAAS-REDIRECT-LIST group-list BN-WAE
password 7 ![removed]
!
!
!
!
!
crypto pki token default removal timeout 0
!
crypto pki trustpoint TP-self-signed-4149390248
enrollment selfsigned
subject-name cn=IOS-Self-Signed-Certificate-4149390248
revocation-check none
rsa-keypair TP-self-signed-4149390248
!
!
crypto pki certificate chain TP-self-signed-4149390248
certificate self-signed 01 nvram:IOS-Self-Sig#2.cer
voice-card 0
dspfarm
dsp services dspfarm
!
!
!
!
!
!
license udi pid CISCO2921/K9 sn ![removed]
!
!
!
!
!

```

```

username admin privilege 15 password 5 ![removed]
!
redundancy
!
!
!
!
ip ssh source-interface Loopback0
ip ssh version 2
!
class-map match-any DATA
  match ip dscp af21
class-map match-any INTERACTIVE-VIDEO
  match dscp cs4 af41
class-map match-any CRITICAL-DATA
  match dscp cs3 af31
class-map match-any VOICE
  match dscp ef
class-map match-any SCAVENGER
  match ip dscp cs1 af11
class-map match-any NETWORK-CRITICAL
  match ip dscp cs2 cs6
!
!
policy-map WAN
  class VOICE
    priority percent 10
  class INTERACTIVE-VIDEO
    priority percent 23
  class CRITICAL-DATA
    bandwidth percent 15
    random-detect dscp-based
  class DATA
    bandwidth percent 19
    random-detect dscp-based
  class SCAVENGER
    bandwidth percent 5

```

```

class NETWORK-CRITICAL
  bandwidth percent 3
class class-default
  bandwidth percent 25
  random-detect
policy-map WAN-QOS-POLICY
  class class-default
    shape average 6000000
    service-policy WAN
!
!
!
!
!
interface Loopback0
  ip address 10.11.8.1 255.255.255.255
  ip pim sparse-mode
!
interface Embedded-Service-Engine0/0
  no ip address
  shutdown
!
interface GigabitEthernet0/0
  description MPLS WAN Uplink
  ip address 192.168.6.137 255.255.255.252
  ip wccp 62 redirect in
  ip pim sparse-mode
  duplex auto
  speed auto
  service-policy output WAN-QOS-POLICY
!
interface GigabitEthernet0/1
  no ip address
  duplex auto
  speed auto
!
interface GigabitEthernet0/2

```

```

description Link to Br2-3560X
no ip address
duplex auto
speed auto
!
interface GigabitEthernet0/2.64
description Wired Data
encapsulation dot1Q 64
ip address 10.11.12.1 255.255.255.0
ip pim sparse-mode
!
interface GigabitEthernet0/2.65
description Wireless Data
encapsulation dot1Q 65
ip address 10.11.10.1 255.255.255.0
ip wccp 61 redirect in
ip pim sparse-mode
!
interface GigabitEthernet0/2.69
description Wired Voice
encapsulation dot1Q 69
ip address 10.11.13.1 255.255.255.0
ip pim sparse-mode
!
interface GigabitEthernet0/2.70
description Wireless Voice
encapsulation dot1Q 70
ip address 10.11.11.1 255.255.255.0
ip pim sparse-mode
!
interface SM1/0
ip address 1.1.1.1 255.255.255.252
service-module external ip address 10.11.12.8 255.255.255.0
service-module ip default-gateway 10.11.12.1
!
ip forward-protocol nd
!

```

```

ip pim rp-address 10.10.15.252 10
ip pim register-source Loopback0
ip http server
ip http secure-server
!
ip route 0.0.0.0 0.0.0.0 192.168.6.138
!
ip access-list standard BN-WAE
permit 10.11.12.8
!
ip access-list extended WAAS-REDIRECT-LIST
remark WAAS WCCP Mgmt Redirect List
deny tcp any any eq 22
deny tcp any eq 22 any
deny tcp any any eq 123
deny tcp any eq 123 any
permit tcp any any
!
access-list 10 permit 239.1.0.0 0.0.255.255
!
!
snmp-server community cisco RO
snmp-server community cisco123 RW
snmp-server trap-source Loopback0
!
control-plane
!
!
gatekeeper
shutdown
!
!
!
line con 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 local
transport input ssh
line vty 5 15
login local
transport input ssh
!
scheduler allocate 20000 1000
ntp source Loopback0
ntp update-calendar
ntp server 10.10.48.17
end

```

远程站点2，局域网交换机，Cisco Catalyst 3560X

以下配置显示了一个24端口Cisco Catalyst 3560X交换机，一个提供全部Cisco Catalyst接入交换机特性的高性能选项。该交换机在端口24上通过一个以太网中继连接到广域网路由器。交换机上的端口1-19针对终端设备进行了配置。端口20-23被配置用于H-REAP无线接入点连接。

```

version 15.0
no service pad
service timestamps debug datetime msec
service timestamps log datetime msec
service password-encryption
!
hostname Br2-A3560X
!
boot-start-marker
boot-end-marker
!

```

```

!
enable secret 5 ![removed]
!
username admin privilege 15 password 7 ![removed]
no aaa new-model
clock timezone PST -8 0
clock summer-time PDT recurring
system mtu routing 1500
!
!
ip arp inspection vlan 64,69
!
!
ip dhcp snooping vlan 64,69
no ip dhcp snooping information option
ip dhcp snooping
ip domain-name cisco.local
ip name-server 10.10.48.10
ip device tracking
vtp mode transparent
udld enable

!
mls qos map policed-dscp 0 10 18 24 46 to 8
mls qos map cos-dscp 0 8 16 24 32 46 48 56
mls qos srr-queue input bandwidth 70 30
mls qos srr-queue input threshold 1 80 90
mls qos srr-queue input priority-queue 2 bandwidth 30
mls qos srr-queue input cos-map queue 1 threshold 2 3
mls qos srr-queue input cos-map queue 1 threshold 3 6 7
mls qos srr-queue input cos-map queue 2 threshold 1 4
mls qos srr-queue input dscp-map queue 1 threshold 2 24
mls qos srr-queue input dscp-map queue 1 threshold 3 48 49 50 51
52 53 54 55
mls qos srr-queue input dscp-map queue 1 threshold 3 56 57 58 59
60 61 62 63

```

```

mls qos srr-queue input dscp-map queue 2 threshold 3 32 33 40 41
42 43 44 45
mls qos srr-queue input dscp-map queue 2 threshold 3 46 47
mls qos srr-queue output cos-map queue 1 threshold 3 4 5
mls qos srr-queue output cos-map queue 2 threshold 1 2
mls qos srr-queue output cos-map queue 2 threshold 2 3
mls qos srr-queue output cos-map queue 2 threshold 3 6 7
mls qos srr-queue output cos-map queue 3 threshold 3 0
mls qos srr-queue output cos-map queue 4 threshold 3 1
mls qos srr-queue output dscp-map queue 1 threshold 3 32 33 40 41
42 43 44 45
mls qos srr-queue output dscp-map queue 1 threshold 3 46 47
mls qos srr-queue output dscp-map queue 2 threshold 1 16 17 18 19
20 21 22 23
mls qos srr-queue output dscp-map queue 2 threshold 1 26 27 28 29
30 31 34 35
mls qos srr-queue output dscp-map queue 2 threshold 1 36 37 38 39
mls qos srr-queue output dscp-map queue 2 threshold 2 24
mls qos srr-queue output dscp-map queue 2 threshold 3 48 49 50 51
52 53 54 55
mls qos srr-queue output dscp-map queue 2 threshold 3 56 57 58 59
60 61 62 63
mls qos srr-queue output dscp-map queue 3 threshold 3 0 1 2 3 4 5
6 7
mls qos srr-queue output dscp-map queue 4 threshold 1 8 9 11 13
15
mls qos srr-queue output dscp-map queue 4 threshold 2 10 12 14
mls qos queue-set output 1 threshold 1 100 100 50 200
mls qos queue-set output 1 threshold 2 125 125 100 400
mls qos queue-set output 1 threshold 3 100 100 100 400
mls qos queue-set output 1 threshold 4 60 150 50 200
mls qos queue-set output 1 buffers 15 25 40 20
mls qos
!
crypto pki trustpoint TP-self-signed-4274817536
  enrollment selfsigned
  subject-name cn=IOS-Self-Signed-Certificate-4274817536

```

```

revocation-check none
rsa-keypair TP-self-signed-4274817536
!
!
crypto pki certificate chain TP-self-signed-4274817536
  certificate self-signed 01
license boot level ipservices
!
!
!
!
spanning-tree mode rapid-pvst
spanning-tree extend system-id
auto qos srnd4
!
!
!
!
vlan internal allocation policy ascending
!
vlan 64
  name Wired-Data
!
vlan 65
  name Wireless-Data
!
vlan 69
  name Wired-Voice
!
vlan 70
  name Wireless-Voice
!
vlan 999
  name NATIVE
!
ip ssh version 2
!

```

```

class-map match-all AUTOQOS_VOIP_DATA_CLASS
  match ip dscp ef
class-map match-all AUTOQOS_DEFAULT_CLASS
  match access-group name AUTOQOS-ACL-DEFAULT
class-map match-all AUTOQOS_VOIP_SIGNAL_CLASS
  match ip dscp cs3
!
policy-map AUTOQOS-SRND4-CISCOPHONE-POLICY
  class AUTOQOS_VOIP_DATA_CLASS
    set dscp ef
    police 128000 8000 exceed-action policed-dscp-transmit
  class AUTOQOS_VOIP_SIGNAL_CLASS
    set dscp cs3
    police 32000 8000 exceed-action policed-dscp-transmit
  class AUTOQOS_DEFAULT_CLASS
    set dscp default
    police 10000000 8000 exceed-action policed-dscp-transmit
!
!
!
!
!
macro name AccessEdgeQoS
auto qos voip cisco-phone
@
macro name EgressQoS
mls qos trust dscp
queue-set 2
srr-queue bandwidth share 1 30 35 5
priority-queue out
@
!
!
interface FastEthernet0
  no ip address
  shutdown
!

```

```

interface range GigabitEthernet0/1-19
  switchport access vlan 64
  switchport mode access
  switchport voice vlan 69
  switchport port-security maximum 11
  switchport port-security
  switchport port-security aging time 2
  switchport port-security violation restrict
  switchport port-security aging type inactivity
  ip arp inspection limit rate 100
  srr-queue bandwidth share 1 30 35 5
  priority-queue out
  mls qos trust device cisco-phone
  mls qos trust cos
  macro description AccessEdgeQoS
  auto qos voip cisco-phone
  spanning-tree portfast
  spanning-tree bpduguard enable
  service-policy input AUTOQOS-SRND4-CISCOPHONE-POLICY
  ip verify source
  ip dhcp snooping limit rate 100
!
interface range GigabitEthernet0/20-23
  description HREAP Access Point Connection
  switchport trunk encapsulation dot1q
  switchport trunk native vlan 64
  switchport trunk allowed vlan 64,65,70
  switchport mode trunk
  switchport port-security maximum 255
  ip arp inspection trust
  srr-queue bandwidth share 1 30 35 5
  priority-queue out
  mls qos trust dscp
  auto qos trust dscp
  spanning-tree portfast trunk
  ip dhcp snooping trust
!

```

```

interface GigabitEthernet0/24
  description Links to Br2-2921
  switchport trunk encapsulation dot1q
  switchport trunk native vlan 999
  switchport trunk allowed vlan 64,65,69,70
  switchport mode trunk
  ip arp inspection trust
  logging event link-status
  srr-queue bandwidth share 1 30 35 5
  queue-set 2
  priority-queue out
  mls qos trust dscp
  macro description EgressQoS
  ip dhcp snooping trust
!
interface Vlan1
  no ip address
  shutdown
!
interface Vlan64
  ip address 10.11.12.5 255.255.255.0
!
ip default-gateway 10.11.12.1
!
ip http server
ip http authentication local
no ip http secure-server
ip http timeout-policy idle 60 life 86400 requests 10000
!
!
ip access-list extended AUTOQOS-ACL-DEFAULT
  permit ip any any
!
logging esm config
logging trap errors
logging 10.10.48.35
access-list 55 permit 10.10.48.0 0.0.0.255

```

```

!
snmp-server community cisco RO 55
snmp-server community cisco123 RW
!
!
line con 0
line vty 0 4
  login local
  length 0
  transport input ssh
line vty 5 15
  login local
  length 0
  transport input ssh
!
ntp server 10.10.48.17
end

```

远程站点3，广域网路由器，Cisco ISR G2 2911

针对中小企业远程站点办公室，推荐使用ISR G2 2911。由于该路由器配置与上面的2951或2921路由器非常接近——取决于将要使用的是到交换机堆叠的永续EtherChannel连接，还是到单一堆叠的单链路以太网连接，因此这里不再介绍Cisco ISR G2 2911的配置。

远程站点4，广域网路由器，Cisco ISR G2 881SRST

对于超小型远程站点办公室，推荐使用ISR G2 881远程站点配置。该路由器配置包括一个用于单机箱局域网交换机的单链路以太网连接。用于提供广域应用服务的配置不包含在此配置中，以最大限度降低站点成本。

```
version 15.1
no service pad
service timestamps debug datetime msec
service timestamps log datetime msec
service password-encryption
!
hostname Br4-881SRST
!
boot-start-marker
boot-end-marker
!
!
enable secret 5 ![removed]
!
no aaa new-model
!
clock timezone PST -8 0
clock summer-time PDT recurring
crypto pki token default removal timeout 0
!
crypto pki trustpoint TP-self-signed-3426671960
  enrollment selfsigned
  subject-name cn=IOS-Self-Signed-Certificate-3426671960
  revocation-check none
  rsakeypair TP-self-signed-3426671960
!
!
crypto pki certificate chain TP-self-signed-3426671960
  certificate self-signed 01
ip source-route
```

```
!
!
!
ip dhcp excluded-address 10.11.28.1 10.11.28.10
ip dhcp excluded-address 10.11.29.1 10.11.29.10
ip dhcp excluded-address 10.11.26.1 10.11.26.10
ip dhcp excluded-address 10.11.27.1 10.11.27.10
!
ip dhcp pool wired-voice
  network 10.11.29.0 255.255.255.0
  default-router 10.11.29.1
  domain-name cisco.local
  dns-server 10.10.48.10
!
ip dhcp pool wired-data
  network 10.11.28.0 255.255.255.0
  default-router 10.11.28.1
  dns-server 10.10.48.10
  domain-name cisco.local
!
ip dhcp pool wireless-voice
  network 10.11.27.0 255.255.255.0
  default-router 10.11.27.1
  domain-name cisco.local
  dns-server 10.10.48.10
!
ip dhcp pool wireless-data
  network 10.11.26.0 255.255.255.0
  default-router 10.11.26.1
  dns-server 10.10.48.10
  domain-name cisco.local
!
!
ip cef
ip domain name cisco.local
ip name-server 10.10.48.10
ip multicast-routing
```

```

no ipv6 cef
!
!
!
!
!
multilink bundle-name authenticated
!
!
!
!
!
!
!
voice-card 0
!
license udi pid C881SRSTW-GN-A-K9 sn ![removed]
!
!
username admin privilege 15 password 7 ![removed]
!
!
!
!
ip ssh source-interface Loopback0
ip ssh version 2
!
class-map match-any DATA
  match ip dscp af21
class-map match-any INTERACTIVE-VIDEO
  match dscp cs4 af41
class-map match-any CRITICAL-DATA
  match dscp cs3 af31
class-map match-any VOICE
  match dscp ef
class-map match-any SCAVENGER
  match ip dscp cs1 af11

```

```

class-map match-any NETWORK-CRITICAL
  match ip dscp cs2 cs6
!
!
policy-map WAN
  class VOICE
    priority percent 10
  class INTERACTIVE-VIDEO
    priority percent 23
  class CRITICAL-DATA
    bandwidth percent 15
    random-detect dscp-based
  class DATA
    bandwidth percent 19
    random-detect dscp-based
  class SCAVENGER
    bandwidth percent 5
  class NETWORK-CRITICAL
    bandwidth percent 3
  class class-default
    bandwidth percent 25
    random-detect
policy-map WAN-QOS-POLICY
  class class-default
    shape average 1500000
    service-policy WAN
!
!
!
! VLAN definitions will not appear in the configuration file.
vlan 64-65,69-70
!
!
!
!
interface Loopback0

```

```

ip address 10.11.24.1 255.255.255.255
ip pim sparse-mode
!
interface FastEthernet0
  switchport trunk allowed vlan 1,2,64,65,69,70,1002-1005
  switchport mode trunk
  no ip address
!
interface FastEthernet1
  no ip address
!
interface FastEthernet2
  no ip address
!
interface FastEthernet3
  no ip address
!
interface FastEthernet4
  description MPLS WAN Uplink
  ip address 192.168.6.145 255.255.255.252
  ip pim sparse-mode
  duplex auto
  speed auto
  service-policy output WAN-QOS-POLICY
!
interface Vlan1
  no ip address
!
interface Vlan64
  description Wired Data
  ip address 10.11.28.1 255.255.255.0
  ip pim sparse-mode
!
interface Vlan65
  description Wireless Data
  ip address 10.11.26.1 255.255.255.0
  ip pim sparse-mode

```

```

!
interface Vlan69
  description Wired Voice
  ip address 10.11.29.1 255.255.255.0
  ip pim sparse-mode
!
interface Vlan70
  description Wireless Voice
  ip address 10.11.27.1 255.255.255.0
  ip pim sparse-mode
!
ip forward-protocol nd
no ip http server
ip http secure-server
!
!
ip pim rp-address 10.10.15.252 10
ip pim register-source Loopback0
ip route 0.0.0.0 0.0.0.0 192.168.6.146
!
access-list 10 permit 239.1.0.0 0.0.255.255
!
!
!
!
!
snmp-server community cisco RO
snmp-server community cisco123 RW
snmp-server trap-source Loopback0
!
control-plane
!
!
voice-port 0
!
voice-port 1

```

```
!  
voice-port 2  
!  
voice-port 3  
!  
voice-port 4  
!  
!  
!  
mgcp profile default  
!  
!  
!  
!  
line con 0  
line aux 0  
line 2  
    no activation-character  
    no exec  
    transport preferred none  
    transport input all  
line vty 0 4  
    login local  
    transport input ssh  
!  
ntp source Loopback0  
ntp update-calendar  
ntp server 10.10.48.17  
end
```

备 注

安全性

总部互联网边缘防火墙，Cisco ASA 5540主用

此Cisco ASA配置提供互联网边缘服务，包括NAT、状态检测(Stateful Inspection)、SSL远程接入VPN以及IPS。故障切换对中的主用Cisco ASA决定着主用和备用设备的配置。

```
ASA Version 8.4(2)
!
hostname IE-ASA5540
domain-name cisco.local
enable password ![removed]
passwd ![removed]
names
!
interface GigabitEthernet0/0
  no nameif
  no security-level
  no ip address
!
interface GigabitEthernet0/0.127
  vlan 127
  nameif inside
  security-level 100
  ip address 10.10.27.126 255.255.255.128 standby 10.10.27.125
!
interface GigabitEthernet0/0.1176
  description Guest Wireless LAN DMZ
  vlan 1176
  nameif Guest-WLAN
  security-level 10
  ip address 192.168.76.1 255.255.252.0
```

```
!
interface GigabitEthernet0/1
  no nameif
  no security-level
  no ip address
!
interface GigabitEthernet0/1.1164
  description Web and File Transfer DMZ
  vlan 1164
  nameif Web-DMZ
  security-level 50
  ip address 192.168.64.1 255.255.255.0
!
interface GigabitEthernet0/2
  description LAN/STATE Failover Interface
!
interface GigabitEthernet0/3
  nameif outside
  security-level 0
  ip address 172.16.60.2 255.255.255.224 standby 172.16.60.3
!
interface Management0/0
  shutdown
  no nameif
  no security-level
  no ip address
!
ftp mode passive
clock timezone PST -8
clock summer-time PDT recurring
dns server-group DefaultDNS
  domain-name cisco.local
same-security-traffic permit intra-interface
object network Internal-Nets
  subnet 10.10.0.0 255.254.0.0
  description All Internal Networks
object network Web-FTP-Private-1
```

```

host 192.168.64.5
description Private Web DMZ Server 1
object network Web-FTP-Public-1
host 172.16.60.4
description Public Web DMZ Server 1
object network Guest-WLAN
subnet 192.168.76.0 255.255.252.0
description Guest Wireless NAT Pool
object network NETWORK_OBJ_10.10.28.0_23
subnet 10.10.28.0 255.255.254.0
object-group service DM_INLINE_TCP_1 tcp
port-object eq ftp
port-object eq www
port-object eq https
access-list global_access extended permit ip object Internal-Nets
any log disable
access-list global_access extended permit tcp any object Web-FTP-
Private-1 object-group DM_INLINE_TCP_1
access-list global_access remark Deny Access from Guest WLAN to
Internal Networks
access-list global_access extended deny ip 192.168.76.0
255.255.252.0 object Internal-Nets
access-list global_access remark Guest WLAN policy to allow
access to all permitted destinations
access-list global_access extended permit ip 192.168.76.0
255.255.252.0 any log disable
pager lines 24
logging enable
logging buffered informational
logging trap informational
logging asdm informational
logging host inside 10.10.48.13
mtu inside 1500
mtu Web-DMZ 1500
mtu Guest-WLAN 1500
mtu outside 1500
ip local pool AnyConnect-pool 10.10.28.1-10.10.29.254 mask

```

```

255.255.254.0
failover
failover lan unit primary
failover lan interface failover GigabitEthernet0/2
failover key ![removed]
failover replication http
failover link failover GigabitEthernet0/2
failover interface ip failover 10.10.27.130 255.255.255.252
standby 10.10.27.129
monitor-interface inside
monitor-interface Web-DMZ
icmp unreachable rate-limit 1 burst-size 1
no asdm history enable
arp timeout 14400
nat (inside,outside) source static Internal-Nets Internal-
Nets destination static NETWORK_OBJ_10.10.28.0_23 NETWORK_
OBJ_10.10.28.0_23 no-proxy-arp route-lookup
!
object network Internal-Nets
nat (any,outside) dynamic interface
object network Web-FTP-Private-1
nat (any,any) static Web-FTP-Public-1
object network Guest-WLAN
nat (any,outside) dynamic interface
access-group global_access global
!
router eigrp 1
network 10.10.0.0 255.255.0.0
passive-interface default
no passive-interface inside
redistribute static
!
route outside 0.0.0.0 0.0.0.0 172.16.60.1 1
route inside 0.0.0.0 0.0.0.0 10.10.27.1 tunneled
timeout xlate 3:00:00
timeout conn 1:00:00 half-closed 0:10:00 udp 0:02:00 icmp 0:00:02
timeout sunrpc 0:10:00 h323 0:05:00 h225 1:00:00 mgcp 0:05:00

```

```
mgcp-pat 0:05:00
timeout sip 0:30:00 sip_media 0:02:00 sip-invite 0:03:00 sip-
disconnect 0:02:00
timeout sip-provisional-media 0:02:00 uauth 0:05:00 absolute
timeout tcp-proxy-reassembly 0:01:00
timeout floating-conn 0:00:00
dynamic-access-policy-record DfltAccessPolicy
aaa-server AD protocol nt
aaa-server AD (inside) host 10.10.48.10
    timeout 5
    nt-auth-domain-controller AD-3
user-identity default-domain LOCAL
http server enable
http 10.10.0.0 255.254.0.0 inside
snmp-server host inside 10.10.48.35 community ![removed]
no snmp-server location
no snmp-server contact
snmp-server community ![removed]
snmp-server enable traps snmp authentication linkup linkdown
coldstart warmstart
crypto ipsec ikev2 ipsec-proposal DES
    protocol esp encryption des
    protocol esp integrity sha-1 md5
crypto ipsec ikev2 ipsec-proposal 3DES
    protocol esp encryption 3des
    protocol esp integrity sha-1 md5
crypto ipsec ikev2 ipsec-proposal AES
    protocol esp encryption aes
    protocol esp integrity sha-1 md5
crypto ipsec ikev2 ipsec-proposal AES192
    protocol esp encryption aes-192
    protocol esp integrity sha-1 md5
crypto ipsec ikev2 ipsec-proposal AES256
    protocol esp encryption aes-256
    protocol esp integrity sha-1 md5
crypto dynamic-map SYSTEM_DEFAULT_CRYPTO_MAP 65535 set ikev2
ipsec-proposal AES256 AES192 AES 3DES DES
```

```
crypto dynamic-map SYSTEM_DEFAULT_CRYPTO_MAP 65535 set reverse-
route
crypto map outside_map 65535 ipsec-isakmp dynamic SYSTEM_DEFAULT_
CRYPTO_MAP
crypto map outside_map interface outside
crypto ca trustpoint ASDM_TrustPoint0
    enrollment self
    subject-name CN=IE-ASA5540
    crl configure
crypto ca certificate chain ASDM_TrustPoint0
    certificate ![removed]
        ![certificate body removed]
    quit
crypto ikev2 policy 1
    encryption aes-256
    integrity sha
    group 5 2
    prf sha
    lifetime seconds 86400
crypto ikev2 policy 10
    encryption aes-192
    integrity sha
    group 5 2
    prf sha
    lifetime seconds 86400
crypto ikev2 policy 20
    encryption aes
    integrity sha
    group 5 2
    prf sha
    lifetime seconds 86400
crypto ikev2 policy 30
    encryption 3des
    integrity sha
    group 5 2
    prf sha
    lifetime seconds 86400
```

```

crypto ikev2 policy 40
  encryption des
  integrity sha
  group 5 2
  prf sha
  lifetime seconds 86400
crypto ikev2 enable outside client-services port 443
crypto ikev2 remote-access trustpoint ASDM_TrustPoint0
telnet timeout 5
ssh 10.10.0.0 255.254.0.0 inside
ssh timeout 5
ssh version 2
console timeout 0
threat-detection basic-threat
threat-detection statistics access-list
no threat-detection statistics tcp-intercept
ntp server 10.10.48.17
ssl trust-point ASDM_TrustPoint0 outside
webvpn
  enable outside
  anyconnect image disk0:/anyconnect-win-3.0.3054-k9.pkg 1
  anyconnect image disk0:/anyconnect-macosx-i386-3.0.3054-k9.pkg 2
  anyconnect profiles AnyConnect-profile_client_profile disk0:/
AnyConnect-profile_client_profile.xml
  anyconnect enable
  tunnel-group-list enable
group-policy GroupPolicy_AnyConnect-profile internal
group-policy GroupPolicy_AnyConnect-profile attributes
  wins-server none
  dns-server value 10.10.48.10
  vpn-tunnel-protocol ikev2 ssl-client
  default-domain value cisco.local
  webvpn
    anyconnect profiles value AnyConnect-profile_client_profile
type user
username admin password ![removed] encrypted privilege 15
tunnel-group AnyConnect-profile type remote-access

```

```

tunnel-group AnyConnect-profile general-attributes
  address-pool AnyConnect-pool
  authentication-server-group AD
  default-group-policy GroupPolicy_AnyConnect-profile
tunnel-group AnyConnect-profile webvpn-attributes
  group-alias AnyConnect-profile enable
!
class-map inspection_default
  match default-inspection-traffic
!
!
policy-map type inspect dns preset_dns_map
  parameters
    message-length maximum client auto
    message-length maximum 512
policy-map global_policy
  class inspection_default
    inspect dns preset_dns_map
    inspect ftp
    inspect h323 h225
    inspect h323 ras
    inspect ip-options
    inspect netbios
    inspect rsh
    inspect rtsp
    inspect skinny
    inspect esmtp
    inspect sqlnet
    inspect sunrpc
    inspect tftp
    inspect sip
    inspect xdmcp
!
service-policy global_policy global
prompt hostname context
no call-home reporting anonymous
call-home

```

```

profile CiscoTAC-1
  no active
  destination address http https://tools.cisco.com/its/service/
oddce/services/DDCEService
  destination address email callhome@cisco.com
  destination transport-method http
  subscribe-to-alert-group diagnostic
  subscribe-to-alert-group environment
  subscribe-to-alert-group inventory periodic monthly
  subscribe-to-alert-group configuration periodic monthly
  subscribe-to-alert-group telemetry periodic daily
Cryptochecksum:f12ac675252e9bc4ffe15542c48fbe18
: end

```

总部互联网边缘防火墙，Cisco ASA 5540备用

故障切换对中的备用Cisco ASA仅要求最低配置来实现备用设备与主用设备的同步，并允许备用设备复制主用设备的配置。

```

interface GigabitEthernet0/2
  no shutdown
!
failover
failover lan unit secondary
failover lan interface failover GigabitEthernet0/2
failover key ![removed]
failover replication http
failover link failover GigabitEthernet0/2
failover interface ip failover 10.10.27.130 255.255.255.252
standby 10.10.27.129

```

总部互联网边缘IPS，Cisco ASA中的AIP-SSM

这里仅提供了一个互联网边缘IPS设备的配置。除了管理地址之外，它们的配置是相同的。

```

service interface
exit
! -----
service authentication
exit
! -----
service event-action-rules rules0
exit
! -----
service host
network-settings
host-ip 10.10.15.21/25,10.10.15.1
host-name IE-SSM-A
telnet-option disabled
access-list 10.10.0.0/16
dns-primary-server disabled
dns-secondary-server disabled
dns-tertiary-server disabled
exit
time-zone-settings
offset -480
standard-time-zone-name GMT-08:00
exit
ntp-option enabled-ntp-unauthenticated
ntp-server 10.10.48.17
exit
summertime-option recurring
summertime-zone-name GMT-08:00
exit
auto-upgrade
cisco-server enabled
schedule-option periodic-schedule

```

```

start-time 16:00:00
interval 1
exit
user-name [removed]
cisco-url https://198.133.219.25//cgi-bin/front.x/ida/locator/
locator.pl
exit
exit
exit
! -----
service logger
exit
! -----
service network-access
exit
! -----
service notification
exit
! -----
service signature-definition sig0
exit
! -----
service ssh-known-hosts
exit
! -----
service trusted-certificates
exit
! -----
service web-server
exit
! -----
service anomaly-detection ad0
exit
! -----
service external-product-interface
exit
! -----

```

```

service health-monitor
exit
! -----
service global-correlation
exit
! -----
service aaa
exit
! -----
service analysis-engine
virtual-sensor vs0
physical-interface GigabitEthernet0/1
exit
exit

```

总部核心IDS传感器

一个IDS传感器连接到局域网核心，用以监视具体VLAN或子网上的流量。此配置在Cisco IPS 4255上生成；对于其他IDS传感器选项，接口类型和数量可能有所不同。

```

service interface
physical-interfaces GigabitEthernet0/0
admin-state enabled
exit
exit
! -----
service authentication
exit
! -----
service event-action-rules rules0
exit
! -----
service host
network-settings
host-ip 10.10.15.20/25,10.10.15.1
host-name hq-ids4255
telnet-option disabled
access-list 10.10.0.0/16

```

```

dns-primary-server enabled
address 10.10.48.10
exit
dns-secondary-server disabled
dns-tertiary-server disabled
exit
time-zone-settings
offset -480
standard-time-zone-name GMT-08:00
exit
ntp-option enabled-ntp-unauthenticated
ntp-server 10.10.48.17
exit
summertime-option recurring
summertime-zone-name GMT-08:00
exit
auto-upgrade
cisco-server enabled
schedule-option periodic-schedule
start-time 08:24:00
interval 4
exit
user-name [removed]
cisco-url https://198.133.219.25//cgi-bin/front.x/ida/locator/
locator.pl
exit
exit
exit
! -----
service logger
exit
! -----
service network-access
exit
! -----
service notification
exit

```

```

! -----
service signature-definition sig0
signatures 2000 0
status
enabled true
exit
exit
signatures 2004 0
status
enabled true
exit
exit
exit
! -----
service ssh-known-hosts
exit
! -----
service trusted-certificates
exit
! -----
service web-server
exit
! -----
service anomaly-detection ad0
exit
! -----
service external-product-interface
exit
! -----
service health-monitor
exit
! -----
service global-correlation
exit
! -----
service aaa
exit

```

```

! -----
service analysis-engine
virtual-sensor vs0
physical-interface GigabitEthernet0/0 subinterface-number 0
physical-interface GigabitEthernet0/1 subinterface-number 0
exit
exit

```

总部服务器机房防火墙，Cisco ASA 5540主用

此Cisco ASA配置提供安全服务来保护服务器机房中的资源：状态检测(Stateful Inspection)和IPS。故障切换对中的主用Cisco ASA决定着主用和备用设备的配置。

```

ASA Version 8.4(2)
!
hostname SR-ASA5540
domain-name cisco.local
enable password ![removed]
passwd ![removed]
names
!
interface GigabitEthernet0/0
  no nameif
  no security-level
  no ip address
!
interface GigabitEthernet0/0.154
  vlan 154
  nameif SRVLAN154
  security-level 100
  ip address 10.8.54.1 255.255.255.0 standby 10.8.54.2
!
interface GigabitEthernet0/0.155
  vlan 155
  nameif SRVLAN155
  security-level 100
  ip address 10.8.55.1 255.255.255.0 standby 10.8.55.2

```

```

!
interface GigabitEthernet0/1
  shutdown
  no nameif
  no security-level
  no ip address
!
interface GigabitEthernet0/2
  description LAN/STATE Failover Interface
!
interface GigabitEthernet0/3
  nameif outside
  security-level 0
  ip address 10.8.53.126 255.255.255.128 standby 10.8.53.125
!
interface Management0/0
  shutdown
  no nameif
  no security-level
  no ip address
!
ftp mode passive
clock timezone PST -8
clock summer-time PDT recurring
dns server-group DefaultDNS
  domain-name cisco.local
object network Mgmt-host-range
  subnet 10.8.48.224 255.255.255.224
  description IP range for server-room management stations
object network Secure-Subnets
  subnet 10.8.54.0 255.255.254.0
object network Secure-App-2
  host 10.8.54.27
object network Internal-Nets
  subnet 10.8.0.0 255.254.0.0
  description All HQ an Remote-Site Subnets
object network Secure-App-1

```

```

host 10.8.54.26
object-group service Mgmt-traffic
service-object tcp destination eq telnet
service-object udp destination eq snmp
service-object tcp destination eq ssh
service-object tcp destination eq 3389
object-group network DM_INLINE_NETWORK_1
network-object object Secure-App-1
network-object object Secure-App-2
object-group service App-1-2-Services
service-object tcp-udp destination eq domain
service-object tcp destination eq www
service-object tcp destination eq https
service-object tcp destination eq netbios-ssn
service-object udp destination eq nameserver
service-object udp destination eq netbios-dgm
service-object udp destination eq netbios-ns
object-group network DM_INLINE_NETWORK_2
network-object object Secure-App-1
network-object object Secure-App-2
access-list global_mpc extended permit ip any any
access-list outside_access_in extended permit object-group App-1-
2-Services object Internal-Nets object-group DM_INLINE_NETWORK_1
access-list outside_access_in extended permit object-group Mgmt-
traffic object Mgmt-host-range object-group DM_INLINE_NETWORK_2
pager lines 24
logging enable
logging buffered informational
logging trap informational
logging asdm informational
logging host outside 10.8.48.13
mtu SRVLAN154 1500
mtu SRVLAN155 1500
mtu outside 1500
failover
failover lan unit primary
failover lan interface failover GigabitEthernet0/2

```

```

failover polltime unit msec 200 holdtime msec 800
failover polltime interface msec 500 holdtime 5
failover key ![removed]
failover replication http
failover link failover GigabitEthernet0/2
failover interface ip failover 10.8.53.130 255.255.255.252
standby 10.8.53.129
monitor-interface SRVLAN154
monitor-interface SRVLAN155
icmp unreachable rate-limit 1 burst-size 1
no asdm history enable
arp timeout 14400
access-group outside_access_in in interface outside
!
router eigrp 1
network 10.8.0.0 255.255.0.0
passive-interface default
no passive-interface outside
!
route outside 10.8.0.0 255.254.0.0 10.8.53.1 1
timeout xlate 3:00:00
timeout conn 1:00:00 half-closed 0:10:00 udp 0:02:00 icmp 0:00:02
timeout sunrpc 0:10:00 h323 0:05:00 h225 1:00:00 mgcp 0:05:00
mgcp-pat 0:05:00
timeout sip 0:30:00 sip media 0:02:00 sip-invite 0:03:00 sip-
disconnect 0:02:00
timeout sip-provisional-media 0:02:00 uauth 0:05:00 absolute
timeout tcp-proxy-reassembly 0:01:00
timeout floating-conn 0:00:00
dynamic-access-policy-record DfltAccessPolicy
user-identity default-domain LOCAL
http server enable
http 10.8.0.0 255.254.0.0 outside
snmp-server host outside 10.8.48.35 community *****
no snmp-server location
no snmp-server contact
snmp-server community *****

```

```

snmp-server enable traps snmp authentication linkup linkdown
coldstart warmstart
telnet timeout 5
ssh 10.8.0.0 255.254.0.0 outside
ssh timeout 5
ssh version 2
console timeout 0
threat-detection basic-threat
threat-detection statistics access-list
no threat-detection statistics tcp-intercept
ntp server 10.8.48.17
webvpn
username admin password ![removed] privilege 15
!
class-map global-class
  match access-list global_mpc
class-map inspection_default
  match default-inspection-traffic
!
!
policy-map type inspect dns preset_dns_map
  parameters
    message-length maximum client auto
    message-length maximum 512
policy-map global_policy
  class inspection_default
    inspect dns preset_dns_map
    inspect ftp
    inspect h323 h225
    inspect h323 ras
    inspect ip-options
    inspect netbios
    inspect rsh
    inspect rtsp
    inspect skinny
    inspect esmtp
    inspect sqlnet

```

```

inspect sunrpc
inspect tftp
inspect sip
inspect xdmcp
class global-class
  ips promiscuous fail-close
!
service-policy global_policy global
prompt hostname context
no call-home reporting anonymous
call-home
  profile CiscoTAC-1
    no active
    destination address http https://tools.cisco.com/its/service/
odce/services/DDCEService
    destination address email callhome@cisco.com
    destination transport-method http
    subscribe-to-alert-group diagnostic
    subscribe-to-alert-group environment
    subscribe-to-alert-group inventory periodic monthly
    subscribe-to-alert-group configuration periodic monthly
    subscribe-to-alert-group telemetry periodic daily
Cryptochecksum:d86e90265737968d2090ef337d13283f
: end

```

总部服务器机房防火墙，Cisco ASA 5540备用

故障切换对中的备用Cisco ASA仅要求最低配置来实现备用设备与主用设备的同步，并允许备用设备复制主用设备的配置。

```

interface GigabitEthernet0/2
  no shutdown
!
failover
failover lan unit secondary
failover lan interface failover GigabitEthernet0/2

```

```

failover polltime unit msec 200 holdtime msec 800
failover polltime interface msec 500 holdtime 5
failover key ![removed]
failover replication http
failover link failover GigabitEthernet0/2
failover interface ip failover 10.8.53.130 255.255.255.252
standby 10.8.53.129

```

总部服务器机房IPS，Cisco ASA中的AIP-SSM

这里仅提供了一个服务器机房IPS设备的配置。除了管理地址之外，它们的配置是相同的。

```

service interface
exit
! -----
service authentication
exit
! -----
service event-action-rules rules0
exit
! -----
service host
network-settings
host-ip 10.8.48.23/24,10.8.48.1
host-name sr-ips-a
telnet-option enabled
access-list 10.8.0.0/16
dns-primary-server enabled
address 10.8.48.10
exit
dns-secondary-server disabled
dns-tertiary-server disabled
exit
time-zone-settings
offset -480
standard-time-zone-name GMT-08:00

```

```

exit
ntp-option enabled-ntp-unauthenticated
ntp-server 10.8.48.17
exit
summertime-option recurring
summertime-zone-name PDT
exit
auto-upgrade
cisco-server enabled
schedule-option calendar-schedule
times-of-day 16:00:00
days-of-week monday
days-of-week tuesday
days-of-week wednesday
days-of-week thursday
days-of-week friday
exit
user-name [removed]
cisco-url https://198.133.219.25//cgi-bin/front.x/ida/locator/locator.pl
exit
exit
exit
! -----
service logger
exit
! -----
service network-access
exit
! -----
service notification
exit
! -----
service signature-definition sig0
exit
! -----
service ssh-known-hosts

```

```
exit
! -----
service trusted-certificates
exit
! -----
service web-server
exit
! -----
service anomaly-detection ad0
exit
! -----
service external-product-interface
exit
! -----
service health-monitor
exit
! -----
service global-correlation
exit
! -----
service aaa
exit
! -----
service analysis-engine
virtual-sensor vs0
physical-interface GigabitEthernet0/1
exit
exit
```

备 注

服务器负载均衡

服务器机房，ACE 4710

Cisco ACE 4710提供服务器负载均衡和服务永续性。该设备通过一个双链路以太通道(EtherChannel)连接到服务器机房交换机。

```
hostname ACE4710y
interface gigabitEthernet 1/1
    channel-group 1
    no shutdown
interface gigabitEthernet 1/2
    channel-group 1
    no shutdown
interface gigabitEthernet 1/3
    shutdown
interface gigabitEthernet 1/4
    shutdown
interface port-channel 1
    switchport trunk allowed vlan 148
    no shutdown

clock timezone standard PST
ntp server 10.8.48.17
```

```
access-list ALL line 8 extended permit ip any any
```

```
ip domain-name cisco.local
ip name-server 10.8.48.10
```

```
probe http http-probe
    interval 15
    passdetect interval 60
    request method head
```

```
expect status 200 200
open 1
```

```
rserver host webserver1
    ip address 10.8.48.111
    inservice
rserver host webserver2
    ip address 10.8.48.112
    inservice
```

```
serverfarm host webfarm
    probe http-probe
    rserver webserver1 80
    inservice
    rserver webserver2 80
    inservice
```

```
class-map match-all http-vip
    2 match virtual-address 10.8.48.100 tcp eq www
class-map type management match-any remote_access
    2 match protocol xml-https any
    3 match protocol icmp any
    4 match protocol telnet any
    5 match protocol ssh any
    6 match protocol http any
    7 match protocol https any
    8 match protocol snmp any
```

```
policy-map type management first-match remote_mgmt_allow_policy
    class remote_access
    permit
```

```
policy-map type loadbalance first-match http-vip-17slb
    class class-default
    serverfarm webfarm
```

```
policy-map multi-match int148
```

```
class http-vip
  loadbalance vip inservice
  loadbalance policy http-vip-17slb
  loadbalance vip icmp-reply active
  nat dynamic 1 vlan 148

interface vlan 148
  ip address 10.8.48.119 255.255.255.0
  peer ip address 10.8.48.120 255.255.255.0
  access-group input ALL
  nat-pool 1 10.8.48.99 10.8.48.99 netmask 255.255.255.0 pat
  service-policy input remote_mgmt_allow_policy
  service-policy input int148
  no shutdown

ip route 0.0.0.0 0.0.0.0 10.8.48.1
snmp-server community cisco group Network-Monitor

username admin password 5 ![removed] role Admin domain default-  
domain
username www password 5 ![removed] role Admin domain default-  
domain
```

备注

附录A: 中小企业部署产品列表

功能区域	产品	产品编号	软件版本
100-600名用户网络核心层	Cisco Catalyst 3750-X 可堆叠12和24端口SFP和IP Services Image	WS-C3750X-12S-E WS-C3750X-24S-E	15.0(1)SE1
600-1000名用户网络核心层	Cisco Catalyst 4507RE 7插槽机箱、风扇、无ps, 支持Red Sup Cisco Catalyst 4500 E系列24端口GE (SFP) 双管理引擎和 双电源	WS-C4507R+E Catalyst 4500 E-Series WS-X45-SUP7-E WS-X4712-SFP+E WS-X4648-RJ45-E WS-X4624-SFP-E	15.0(2)SG1 CAT4500E SUP7e Universal Crypto Image
1000-2500名用户网络核心层	Cisco Catalyst 6500VSS; 每个组件两个	WS-C6504-E VS-S720-10G WS-X6716-10GE WS-X6748-SFP	12.2(33)SX17

功能区域	产品	产品编号	软件版本
PC、电话、AP和其它设备的总部接入功能	Cisco Catalyst 4507R+E 双管理引擎（或者单管理引擎以降低成本） 双电源	WS-C4507R+E WS-X45-SUP7L-E Catalyst 4500 E-Series Supervisor LE, 520Gbps WS-X4648-RJ45V+E	15.0(2)XO
	Cisco Catalyst 3750-X可堆叠交换机 24和48个以太网10/100/1000端口，带PoE+和IP Base。 可选配上行链路模块。* *可选配3750-X 4xSFP上行链路模块	WS-C3750X-24P-S WS-C3750X-48PF-S C3KX-NM-1G	15.0(1)SE1
	Cisco Catalyst 3560-X独立交换机 24和48个以太网10/100/1000端口，带PoE+和IP Base。 可选配上行链路模块。* *可选配3560-X 4xSFP上行链路模块	WS-C3560X-24P-S WS-C3560X-48PF-S C3KX-NM-1G	15.0(1)SE1
	Cisco Catalyst 2960-S可堆叠交换机** 24和48个以太网10/100/1000端口，带PoE+、LAN Base、4个SFP端口。可选配堆叠模块。** **可选2960-S FlexStack堆叠模块	WS-C2960S-24PS-L WS-C2960S-48FPS-L C2960S-STACK	15.0(1)SE1
服务器机房交换机	Cisco Catalyst 3750-X可堆叠交换机 24和48个以太网10/100/1000端口，带IP Base。可选配上行链路模块。* *可选配3560-X或3750-X 4xSFP上行链路模块	WS-C3750X-24T-S WS-C3750X-48T-S C3KX-NM-1G	15.0(1)SE1
	Cisco Catalyst 3560-X独立交换机 24和48个以太网10/100/1000端口，带IP Base。可选配上行链路模块。* *可选配3560-X或3750-X 4xSFP上行链路模块	WS-C3560X-24T-S WS-C3560X-48T-S C3KX-NM-1G	15.0(1)SE1
互联网DMZ交换机	Cisco Catalyst 3750-X可堆叠交换机 24和48个以太网10/100/1000端口，带IP Base。	WS-C3750X-24T-S WS-C3750X-48T-S	15.0(1)SE1
	Cisco Catalyst 3560-X独立交换机 24和48个以太网10/100/1000端口，带IP Base。	WS-C3560X-24T-S WS-C3560X-48T-S	15.0(1)SE1

功能区域	产品	产品编号	软件版本
总部广域网路由器	Cisco 3945或3925集成多业务路由器G2	C3945-VSEC/K9 C3925-VSEC/K9	15.1(4)M2
远程站点路由器	Cisco 2951集成多业务路由器 Cisco 2921集成多业务路由器 Cisco 2911集成多业务路由器 Cisco 881集成多业务路由器	C2951-VSEC/K9 C2921-VSEC/K9 C2911-VSEC/K9 C881SRST-K9	15.1(4)M2
远程站点路由器模块	思科广域加速模块	SRE-700-S SRE-900-M	4.4.1.12
远程站点交换机	Cisco Catalyst 3750-X可堆叠交换机 24和48个以太网10/100/1000端口，带PoE+和IP Base。 可选配上行链路模块。* Cisco Catalyst 3560-X独立交换机 24和48个以太网10/100/1000端口，带PoE+和IP Base。 可选配上行链路模块。* Cisco Catalyst 2960-S可堆叠交换机** 24和48个以太网10/100/1000端口，带PoE+、LAN Base、4个SFP端口。 **可选2960-S FlexStack堆叠模块	WS-C3750X-24P-S WS-C3750X-48PF-S WS-C3560X-24P-S WS-C3560X-48PF-S WS-C2960S-24PS-L WS-C2960S-48FPS-L C2960S-STACK	15.0(1)SE1
互联网边缘防火墙	Cisco Adaptive Security Appliance（思科自适应安全设备） ASA 5540，带SSM-40 IPS模块 ASA 5520，带SSM-20 IPS模块 ASA 5510，带SSM-10 IPS模块	ASA5540-AIP40-K9 ASA5520-AIP20-K9 ASA5510-AIP10-K9	8.4.2.ED 7.0(5a)E4
服务器机房防火墙	Cisco Adaptive Security Appliance（思科自适应安全设备） ASA 5540，带SSM-40 IPS模块	ASA5540-AIP40-K9	8.4.2.ED 7.0(5a)E4

功能区域	产品	产品编号	软件版本
总部入侵防御系统	Cisco 入侵防御系统4200系列	IPS-4240-K9 (300 Mbps) IPS-4255-K9 (600 Mbps) IPS-4260-K9 (2 Gbps)	70(5a)E4
应用加速 总部CM 总部终端	Cisco WAVE 694 Cisco WAVE 594 Cisco WAVE 294	WAVE-694-K9 WAVE-594-K9 WAVE-294-K9	4.4.1.12
无线接入点	Cisco Aironet无线接入点 1140固定无线接入点, 内置天线 1260无线接入点, 内置天线 3500无线接入点, 内置天线 3500无线接入点, 外置天线	AIR-LAP1142N (适用于特定国家) AIR-LAP1262N (适用于特定国家) AIR-CAP3502I (适用于特定国家) AIR-CAP3502E (适用于特定国家)	70.116.0
无线局域网控制器	Cisco WLC 5508	AIR-CT5508-12-K9	71.91.0
服务器负载均衡	Cisco Application Control Engine (思科应用控制引擎)	ACE-4710-1F-K9	A5.1



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