

高エネルギー加速器研究機構 殿向け  
入射器棟内ネットワーク  
コアスイッチ2重化 導入作業  
完成図書

平成16年8月24日

住友電設株式会社  
情報通信システム事業部

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版 履 歴

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改版履歴表

版数	日付	変更内容	作成者
1.0	2004/8/24	1.0 版 作成	宮西

## 1. 概要

本件の概要について以下に示す。

### 導入場所

〒300-1295 茨城県つくば市大穂 1-1 文部科学省 高エネルギー加速器研究機構 入射器棟

### ご担当者様

古川 様

### 導入日時

2004年8月10日(火)

### 導入機器

CiscoSystems 社製 Catalyst3750G-24TS-E	×	1台
SMC 製 SMC-MCMRACK100-J2	×	1台
SMC 製 SMC-MC201FMSC-J1	×	8台

### 導入担当

住友電設(株) 情報通信システム事業部 宮西, 西野

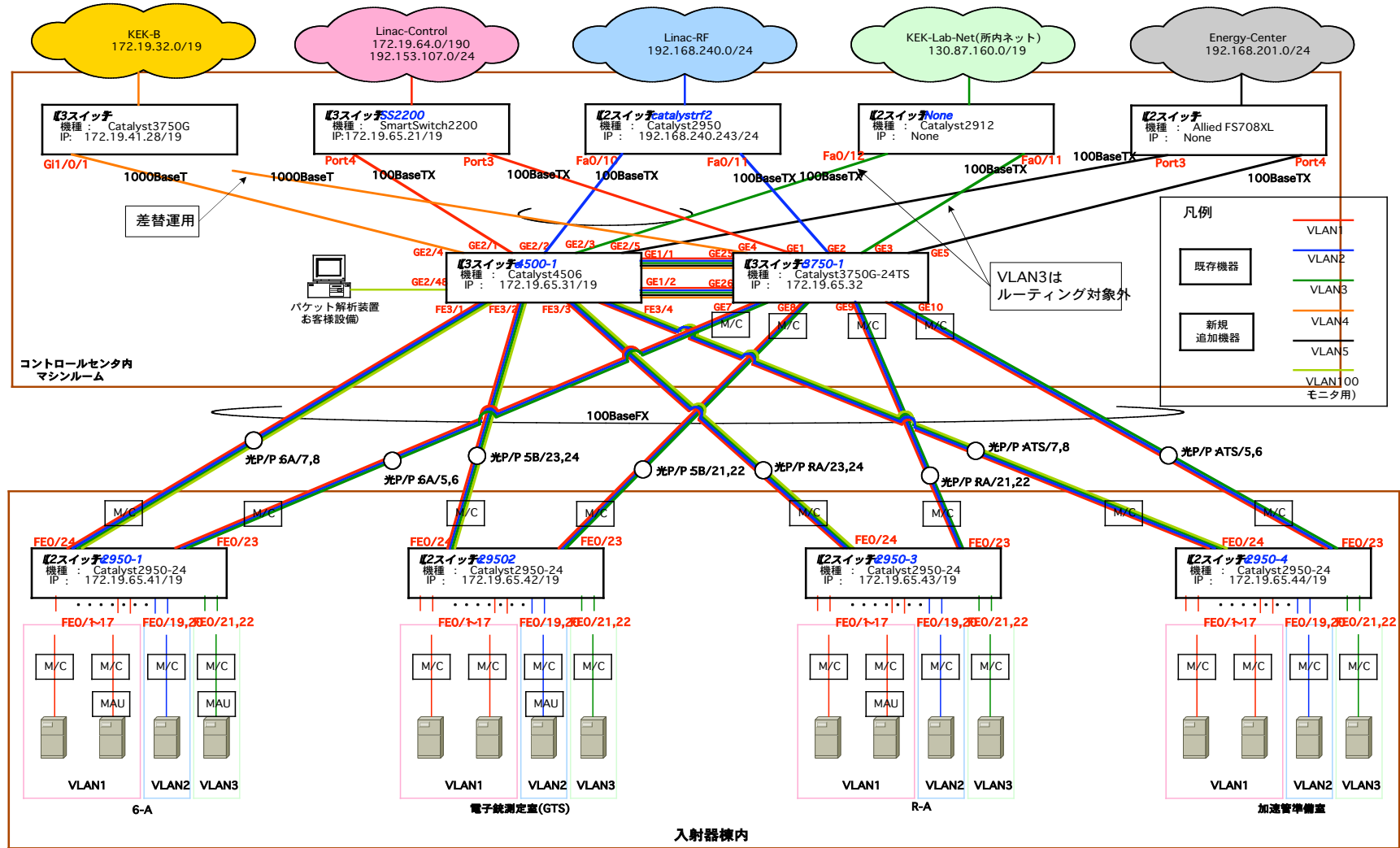
## 2. 基本ポリシー

構築の基本ポリシーを以下に列記する。

- ・ 以前導入した Catalyst4506 に加え今回新規に追加する Catalyst3750 を利用する事により、コアの 2 重化を行い、現状まで SSR2000 でルーティングしていた IP ネットワークを 2 台の Catalyst で実施し、SSR2000 はネットワークから撤去する。
- ・ 既存で利用していた Linac-Control(172.19.65.21/19), Linac-RF(192.168.240.0/24), KEK-Lab-Net(130.87.160.0./19)の 3 セグメントに加え、KEK-B(172.19.32.0/19), Energy-Center(192.168.201.0/24)の 2 セグメントを追加する。
- ・ KEK-Lab-Net(130.87.160.0./19)については、コアスイッチではルーティングさせずに L2 として接続する。
- ・ 上位 5 セグメントについては PVST 及び HSRP による冗長化構成を取る。ただし KEK-B(172.19.32.0/19)については、PVSTP の設定は行うが、コア予備機と上位スイッチの接続は行わず、ケーブル差し替え運用による冗長構成とする。
- ・ 2 台のコアスイッチと下位にある 4 台の Catalyst2950 については PVST+HSRP による冗長化構成とする。Catalyst2950 側に UpLinkFast の設定を実施する事により、高速冗長化構成にする。
- ・ メディアコンバータ(SMC-MC201FMSC-J1)は、既存導入分含めて全て「リンクフォワード機能」を ON にし、光ケーブルが切れた際にもスイッチ側でリンクダウンを検出できるようにし、STP が正常に働くようにする。
- ・ 下位の Catalyst2950 4 台に割り当てる VLAN は従来と同様の 3VLAN のみとし、各 VLAN に割り当てるポート数も同様とする。但し、Port23 は新規に入れた Catalyst3750 接続用として Trunk の設定に変更する。
- ・ パケット解析用の VLAN は従来通りのままとする。新規導入した Catalyst3750 側には、この VLAN は作成しない。

- ・ 新規導入の Catalyst 3750 と下位の Catalyst2950 4 台の接続は、メディアコンバータ(SMC-MC201FMSC-J1)を対向で利用する接続形態とする。Catalyst3750 側には新規にメディアコンバータラック(SMC-MCMRACK100-J2)を設置し、その中にメディアコンバータを収容する。Catalyst2950 側は、既存設置のコンバータラックに各々1 台ずつ新規導入コンバータを組み込む。
- ・ SNMP 関連の設定は、既存の設定内容に準拠させる。

### 3. ネットワーク構成図



#### 4. 機器管理表

Switchingハブ 2004/08/11作

機器管理番号	設置場所	機器名称	機器型番	Serial No.	Software Version	Host Name	備考
L3SW-02	Main-Cラック内	Catalyst3750G-24TS-S	WS-C3750G-24TS	CAT0821N2AE	12.1(19)EA1		Switch-Image : C3750-19
		Mini GBIC	GLC-SX-MM	FNS0817R6R2	---	---	ai1/0/25
		Mini GBIC	GLC-SX-MM	FNS0818A0B7	---	---	ai1/0/26
		Mini GBIC	GLC-T	MTC0825031N	---	---	ai1/0/27
		Mini GBIC	GLC-T	MTC0825033G	---	---	ai1/0/28
		Mini GBIC	GLC-T	MTC08250328	---	---	既存KEKBc3750 ai1/0/

#### メディアコンバータ

機器管理番号	設置場所	機器名称	機器型番	Serial No.	Software Version	Host Name	備考
MC33	Main-Cラック内	SMC MediaConverter(100FX/10・100)	SMC-MC201FMSC-J1	044MC14100B2	---	---	MMF
MC34	Main-Cラック内	SMC MediaConverter(100FX/10・100)	SMC-MC201FMSC-J1	044MC14079B2	---	---	MMF
MC35	Main-Cラック内	SMC MediaConverter(100FX/10・100)	SMC-MC201FMSC-J1	044MC14096B2	---	---	MMF
MC36	Main-Cラック内	SMC MediaConverter(100FX/10・100)	SMC-MC201FMSC-J1	044MC14084B2	---	---	MMF
MC37	Main-Cラック内	SMC MediaConverter(100FX/10・100)	SMC-MC201FMSC-J1	044MC14099B2	---	---	MMF
MC38	Main-Cラック内	SMC MediaConverter(100FX/10・100)	SMC-MC201FMSC-J1	044MC14081B2	---	---	MMF
MC39	Main-Cラック内	SMC MediaConverter(100FX/10・100)	SMC-MC201FMSC-J1	044MC14098B2	---	---	MMF
MC40	Main-Cラック内	SMC MediaConverter(100FX/10・100)	SMC-MC201FMSC-J1	044MC14086B2	---	---	MMF

#### メディアコンバータ・ラック

機器管理番号	設置場所	機器名称	機器型番	Serial No.	Software Version	Host Name	備考
MCR-05	Main-Cラック内	SMC MediaConverter Rack (16slot)	SMC-MCMRACK100-12	045MC20502B3	---	---	

## 5. IP アドレス一覧表

機器名称 ネットワーク名	c4500-1	c 3750-1	Vertual-IP	c 2950-1	c 2950-2	c 2950-3	c 2950-4	備考
VLAN1 /Linac-Control(172.19.64.0/19)	172.19.65.31	172.19.65.32	172.19.64.1	172.19.65.41	172.19.65.42	172.19.65.43	172.19.65.44	HSRP-ID:8
VLAN1 /Linac-Control(192.153.107.0/24)	192.153.107.9	192.153.107.10	192.153.107.1	-	-	-	-	HSRP-ID:16
VLAN2/Linac-RF(192.168.240.0/24)	192.168.240.28	192.168.240.29	192.168.240.1	-	-	-	-	HSRP-ID:24
VLAN3/KEK-Lab-Net(130.87.160.0/19)	-	-	-	-	-	-	-	HSRP-ID:32
VLAN4/KEK-B(172.19.32.0/19)	172.19.57.99	172.19.57.101	172.19.57.100	-	-	-	-	HSRP-ID:48
VLAN5/Energy-Center(192.168.20.1.0/24)	192.168.201.31	192.168.201.32	192.168.201.1	16	-	-	-	HSRP-ID:56



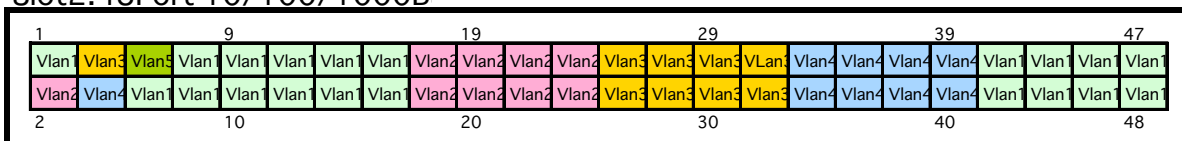
## 6. VLAN アサイン表

高エネルギー加速器研究機構様向けCatalyst4506モジュール情報

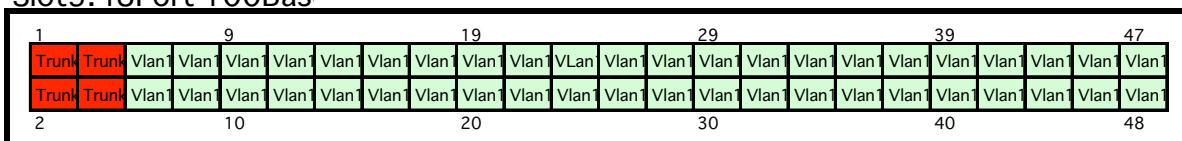
Slot1:Supervisor Engine4



Slot2:48Port 10/100/1000B



Slot3:48Port 100Bas



更新内容

新規にVLAN5を作成

Slot1 : VLAN1からChannel Group 1 (Trunk) に変更

Slot2 : port2/5をVLAN1からVLAN5に変更







## 7. Config 情報

### 7 - 1. c4500-1

----- show version -----

```
Cisco Internetwork Operating System Software
IOS (tm) Catalyst 4000 L3 Switch Software (cat4000-I9S-M), Version
12.1(20)EW1,
EARLY DEPLOYMENT RELEASE SOFTWARE (fc1)
TAC Support: http://www.cisco.com/tac
Copyright (c) 1986-2003 by cisco Systems, Inc.
Compiled Mon 01-Dec-03 19:59 by eaarmas
Image text-base: 0x00000000, data-base: 0x00F57254

ROM: 12.1(12r)EW
Dagobah Revision 86, Swamp Revision 28

c4500-1 uptime is 2 hours, 25 minutes
System returned to ROM by reload
System restarted at 13:59:06 JST Tue Aug 10 2004
System image file is "bootflash:cat4000-i9s-mz.121-20.EW1.bin"

cisco WS-C4506 (XPC8245) processor (revision 7) with 524288K bytes of
memory.
Processor board ID FOX075000C8
Last reset from Reload
6 Ethernet/IEEE 802.3 interface(s)
49 FastEthernet/IEEE 802.3 interface(s)
50 Gigabit Ethernet/IEEE 802.3 interface(s)
403K bytes of non-volatile configuration memory.

Configuration register is 0x102
```

----- show running-config -----

```
Building configuration...

Current configuration : 10185 bytes
!
! Last configuration change at 16:16:01 JST Tue Aug 10 2004
! NVRAM config last updated at 16:16:09 JST Tue Aug 10 2004
!
version 12.1
no service pad
service timestamps debug datetime msec localtime show-timezone
service timestamps log datetime msec localtime show-timezone
service password-encryption
service compress-config
!
hostname c4500-1
!
enable password 7 0605002F585C061516
!
clock timezone JST 9
ip subnet-zero
no ip domain-lookup
ip host c2950-4 172.19.65.44
ip host c2950-3 172.19.65.43
ip host c2950-2 172.19.65.42
ip host c2950-1 172.19.65.41
ip host c3750-1 172.19.65.32
!
!
no spanning-tree optimize bpdu transmission
spanning-tree extend system-id
spanning-tree vlan 1-5,100 priority 24576
!
!
interface Port-channel1
switchport
switchport trunk encapsulation dot1q
switchport trunk allowed vlan 1-5
switchport mode trunk
!
interface GigabitEthernet1/1
switchport trunk encapsulation dot1q
switchport trunk allowed vlan 1-5
switchport mode trunk
channel-group 1 mode on
!
interface GigabitEthernet1/2
switchport trunk encapsulation dot1q
switchport trunk allowed vlan 1-5
switchport mode trunk
channel-group 1 mode on
!
```

```
interface GigabitEthernet2/1
switchport mode access
storm-control broadcast level 50.00
spanning-tree vlan 1 cost 10
!
interface GigabitEthernet2/2
switchport access vlan 2
switchport mode access
storm-control broadcast level 50.00
!
interface GigabitEthernet2/3
switchport access vlan 3
switchport mode access
storm-control broadcast level 50.00
!
interface GigabitEthernet2/4
switchport access vlan 4
switchport mode access
storm-control broadcast level 50.00
no cdp enable
!
interface GigabitEthernet2/5
switchport access vlan 5
switchport mode access
storm-control broadcast level 50.00
!
interface GigabitEthernet2/6
switchport mode access
!
interface GigabitEthernet2/7
switchport mode access
!
interface GigabitEthernet2/8
switchport mode access
!
interface GigabitEthernet2/9
switchport mode access
!
interface GigabitEthernet2/10
switchport mode access
!
interface GigabitEthernet2/11
switchport mode access
!
interface GigabitEthernet2/12
switchport mode access
!
interface GigabitEthernet2/13
switchport mode access
!
interface GigabitEthernet2/14
switchport mode access
!
interface GigabitEthernet2/15
switchport mode access
!
interface GigabitEthernet2/16
switchport mode access
!
interface GigabitEthernet2/17
switchport access vlan 2
switchport mode access
!
interface GigabitEthernet2/18
switchport access vlan 2
switchport mode access
!
interface GigabitEthernet2/19
switchport access vlan 2
switchport mode access
!
interface GigabitEthernet2/20
switchport access vlan 2
switchport mode access
!
interface GigabitEthernet2/21
switchport access vlan 2
switchport mode access
!
interface GigabitEthernet2/22
switchport access vlan 2
switchport mode access
!
interface GigabitEthernet2/23
switchport access vlan 2
switchport mode access
!
interface GigabitEthernet2/24
switchport access vlan 2
switchport mode access
```



```

!
interface FastEthernet3/24
switchport mode access
duplex full
!
interface FastEthernet3/25
switchport mode access
duplex full
!
interface FastEthernet3/26
switchport mode access
duplex full
!
interface FastEthernet3/27
switchport mode access
duplex full
!
interface FastEthernet3/28
switchport mode access
duplex full
!
interface FastEthernet3/29
switchport mode access
duplex full
!
interface FastEthernet3/30
switchport mode access
duplex full
!
interface FastEthernet3/31
switchport mode access
duplex full
!
interface FastEthernet3/32
switchport mode access
duplex full
!
interface FastEthernet3/33
switchport mode access
duplex full
!
interface FastEthernet3/34
switchport mode access
duplex full
!
interface FastEthernet3/35
switchport mode access
duplex full
!
interface FastEthernet3/36
switchport mode access
duplex full
!
interface FastEthernet3/37
switchport mode access
duplex full
!
interface FastEthernet3/38
switchport mode access
duplex full
!
interface FastEthernet3/39
switchport mode access
duplex full
!
interface FastEthernet3/40
switchport mode access
duplex full
!
interface FastEthernet3/41
switchport mode access
duplex full
!
interface FastEthernet3/42
switchport mode access
duplex full
!
interface FastEthernet3/43
switchport mode access
duplex full
!
interface FastEthernet3/44
switchport mode access
duplex full
!
interface FastEthernet3/45
switchport mode access
duplex full
!
interface FastEthernet3/46
switchport mode access
duplex full
!
interface FastEthernet3/47

```

```

switchport mode access
duplex full
!
interface FastEthernet3/48
switchport mode access
duplex full
!
interface Vlan1
description **Linac-Control**
ip address 192.153.107.9 255.255.255.0 secondary
ip address 172.19.65.31 255.255.224.0
ip broadcast-address 172.19.95.255
no ip redirects
no ip route-cache
no ip mroute-cache
standby 8 ip 172.19.64.1
standby 8 preempt
standby 16 ip 192.153.107.1
standby 16 preempt
!
interface Vlan2
description **Linac-RF**
ip address 192.168.240.231 255.255.255.0
no ip redirects
no ip route-cache
no ip mroute-cache
standby 24 ip 192.168.240.1
standby 24 preempt
!
interface Vlan3
description **KEK-LabNet**
no ip address
no ip route-cache
no ip mroute-cache
!
interface Vlan4
description **KEK-B**
ip address 172.19.57.99 255.255.252.0
no ip redirects
no ip route-cache
no ip mroute-cache
standby 48 ip 172.19.57.100
standby 48 preempt
!
interface Vlan5
description **Energy-Center**
ip address 192.168.201.31 255.255.255.0
ip helper-address 192.153.107.2
ip helper-address 192.153.107.3
ip helper-address 192.153.107.16
no ip redirects
no ip route-cache
no ip mroute-cache
standby 56 ip 192.168.201.46
standby 56 preempt
!
ip classless
ip forward-protocol sdns
no ip forward-protocol udp bootpc
no ip forward-protocol udp tftp
no ip forward-protocol udp nameserver
no ip forward-protocol udp domain
no ip forward-protocol udp time
no ip forward-protocol udp netbios-ns
no ip forward-protocol udp netbios-dgm
no ip forward-protocol udp tacacs
ip forward-protocol udp 8001
ip http server
!
snmp-server community public RO
!
banner exec ^C
*****
HW : Catalyst4506
Host Name : c4500-1
Management IP : 172.16.65.31
*****
^C
!
line con 0
password 7 0110090A4F19090332
login
stopbits 1
line vty 0 4
password 7 0110090A4F19090332
login
!
ntp clock-period 17179957
ntp server 172.19.64.4
ntp server 172.19.64.20
!
monitor session 1 destination interface Gi2/48
monitor session 1 source remote vlan 100
!

```





## 7 - 2. c3750-1

```
----- show version -----
Cisco Internetwork Operating System Software
IOS (tm) C3750 Software (C3750-I9-M), Version 12.1(19)EA1c, RELEASE
SOFTWARE (fc
2)
Copyright (c) 1986-2004 by cisco Systems, Inc.
Compiled Tue 03-Feb-04 09:20 by yenanh
Image text-base: 0x00003000, data-base: 0x007C887C

ROM: Bootstrap program is C3750 boot loader
BOOTLDR: C3750 Boot Loader (C3750-HBOOT-M) Version 12.1(14r)EA1a,
RELEASE SOWTWA
RE (fc1)

c3750-1 uptime is 7 hours, 12 minutes
System returned to ROM by power-on
System restarted at 09:44:43 JST Tue Aug 10 2004
System image file is "flash:c3750-i9-mz.121-19.EA1c/c3750-i9-mz.121-
19.EA1c.bin"

cisco WS-C3750G-24TS (PowerPC405) processor (revision E0) with
118776K/12288K by
tes of memory.
Processor board ID CAT0821N2AE
Last reset from power-on
5 Virtual Ethernet/IEEE 802.3 interface(s)
28 Gigabit Ethernet/IEEE 802.3 interface(s)
The password-recovery mechanism is enabled.

512K bytes of flash-simulated non-volatile configuration memory.
Base ethernet MAC Address      : 00:11:21:8C:78:80
Motherboard assembly number    : 73-7058-10
Power supply part number       : 341-0045-01
Motherboard serial number      : CAT08210LV1
Power supply serial number     : LIT081801JD
Model revision number          : E0
Motherboard revision number    : A0
Model number                   : WS-C3750G-24TS-S
System serial number           : CAT0821N2AE
Hardware Board Revision Number : 0x09

Switch  Ports  Model          SW Version      SW Image
-----
* 1 28  WS-C3750G-24TS  12.1(19)EA1c   C3750-I9-M

Configuration register is 0xF

----- show running-config -----

Building configuration...

Current configuration : 5699 bytes
!
! Last configuration change at 16:49:21 JST Tue Aug 10 2004
! NVRAM config last updated at 16:49:48 JST Tue Aug 10 2004
!
version 12.1
no service pad
service timestamps debug datetime msec localtime show-timezone
service timestamps log datetime msec localtime show-timezone
service password-encryption
!
hostname c3750-1
!
enable password 7 02050B551F14002D5F
!
clock timezone JST 9
ip subnet-zero
ip routing
!
no ip domain-lookup
ip host c4500-1 172.19.65.31
ip host c2950-1 172.19.65.41
ip host c2950-2 172.19.65.42
ip host c2950-3 172.19.65.43
ip host c2950-4 172.19.65.44
!
!
spanning-tree mode pvst
no spanning-tree optimize bpdu transmission
spanning-tree extend system-id
spanning-tree vlan 1-3 priority 28672
!
!
interface Port-channel1
```

```
switchport trunk encapsulation dot1q
switchport trunk allowed vlan 1-5
switchport mode trunk
no ip address
!
interface GigabitEthernet1/0/1
switchport mode access
no ip address
no mdix auto
storm-control broadcast level 50.00
storm-control multicast level 50.00
!
interface GigabitEthernet1/0/2
switchport access vlan 2
switchport mode access
no ip address
no mdix auto
storm-control broadcast level 50.00
storm-control multicast level 50.00
!
interface GigabitEthernet1/0/3
switchport access vlan 3
switchport mode access
no ip address
no mdix auto
storm-control broadcast level 50.00
storm-control multicast level 50.00
!
interface GigabitEthernet1/0/4
switchport access vlan 4
switchport mode access
no ip address
no mdix auto
storm-control broadcast level 50.00
storm-control multicast level 50.00
no cdp enable
!
interface GigabitEthernet1/0/5
switchport access vlan 5
switchport mode access
no ip address
no mdix auto
storm-control broadcast level 50.00
storm-control multicast level 50.00
!
interface GigabitEthernet1/0/6
no ip address
no mdix auto
!
interface GigabitEthernet1/0/7
switchport trunk encapsulation dot1q
switchport trunk allowed vlan 1-3
switchport mode trunk
no ip address
duplex full
speed 100
no mdix auto
!
interface GigabitEthernet1/0/8
switchport trunk encapsulation dot1q
switchport trunk allowed vlan 1-3
switchport mode trunk
no ip address
duplex full
speed 100
no mdix auto
!
interface GigabitEthernet1/0/9
switchport trunk encapsulation dot1q
switchport trunk allowed vlan 1-3
switchport mode trunk
no ip address
duplex full
speed 100
no mdix auto
!
interface GigabitEthernet1/0/10
switchport trunk encapsulation dot1q
switchport trunk allowed vlan 1-3
switchport mode trunk
no ip address
duplex full
speed 100
no mdix auto
!
interface GigabitEthernet1/0/11
no ip address
no mdix auto
!
interface GigabitEthernet1/0/12
no ip address
no mdix auto
!
interface GigabitEthernet1/0/13
```

```

no ip address
no mdix auto
!
interface GigabitEthernet1/0/14
no ip address
no mdix auto
!
interface GigabitEthernet1/0/15
no ip address
no mdix auto
!
interface GigabitEthernet1/0/16
no ip address
no mdix auto
!
interface GigabitEthernet1/0/17
no ip address
no mdix auto
!
interface GigabitEthernet1/0/18
no ip address
no mdix auto
!
interface GigabitEthernet1/0/19
no ip address
no mdix auto
!
interface GigabitEthernet1/0/20
no ip address
no mdix auto
!
interface GigabitEthernet1/0/21
no ip address
no mdix auto
!
interface GigabitEthernet1/0/22
no ip address
no mdix auto
!
interface GigabitEthernet1/0/23
no ip address
no mdix auto
!
interface GigabitEthernet1/0/24
no ip address
no mdix auto
!
interface GigabitEthernet1/0/25
switchport trunk encapsulation dot1q
switchport trunk allowed vlan 1-5
switchport mode trunk
no ip address
channel-group 1 mode on
!
interface GigabitEthernet1/0/26
switchport trunk encapsulation dot1q
switchport trunk allowed vlan 1-5
switchport mode trunk
no ip address
channel-group 1 mode on
!
interface GigabitEthernet1/0/27
no ip address
no mdix auto
!
interface GigabitEthernet1/0/28
no ip address
no mdix auto
!
interface Vlan1
description **Linac-Control**
ip address 192.153.107.10 255.255.255.0 secondary
ip address 172.19.65.32 255.255.224.0
ip broadcast-address 172.19.95.255
no ip redirects
standby 8 ip 172.19.64.1
standby 8 priority 95
standby 8 preempt
standby 16 ip 192.153.107.1
standby 16 priority 95
standby 16 preempt
!
interface Vlan2
description **Linac-RF**
ip address 192.168.240.232 255.255.255.0
no ip redirects
standby 24 ip 192.168.240.1
standby 24 priority 95
standby 24 preempt
!
interface Vlan3
description **KEK-LabNet**
no ip address
!

```

```

interface Vlan4
description **KEK-B**
ip address 172.19.57.101 255.255.224.0
no ip redirects
standby 48 ip 172.19.57.100
standby 48 priority 95
standby 48 preempt
!
interface Vlan5
description **Energy-Center**
ip address 192.168.201.32 255.255.255.0
ip helper-address 192.153.107.2
ip helper-address 192.153.107.3
ip helper-address 192.153.107.16
no ip redirects
standby 56 ip 192.168.201.46
standby 56 priority 95
standby 56 preempt
!
ip classless
ip forward-protocol sdns
no ip forward-protocol udp bootpc
no ip forward-protocol udp tftp
no ip forward-protocol udp nameserver
no ip forward-protocol udp domain
no ip forward-protocol udp time
no ip forward-protocol udp netbios-ns
no ip forward-protocol udp netbios-dgm
no ip forward-protocol udp tacacs
ip forward-protocol udp 8001
ip http server
!
snmp-server community public RO
banner exec ^C
*****
HW : Catalyst3750G-24TS-E
Host Name : c3750-1
Management IP : 172.16.65.32
*****
^C
!
line con 0
password 7 00071C081049040A1C
login
line vty 0 4
password 7 00071C081049040A1C
login
line vty 5 15
login
!
ntp clock-period 36029091
ntp server 172.19.64.4
ntp server 172.19.64.20
end

```

## 7 - 3. c2950-1

----- show version -----

```
Cisco Internetwork Operating System Software
IOS (tm) C2950 Software (C2950-I6Q4L2-M), Version 12.1(19)EA1a, RELEASE
SOFTWARE
(fc1)
Copyright (c) 1986-2003 by cisco Systems, Inc.
Compiled Tue 09-Dec-03 00:12 by yenanh
Image text-base: 0x80010000, data-base: 0x8058A000
```

ROM: Bootstrap program is C2950 boot loader

```
c2950-1 uptime is 2 weeks, 1 day, 22 hours, 14 minutes
System returned to ROM by power-on
System restarted at 18:32:03 JST Sun Jul 25 2004
System image file is "flash:/c2950-i6q4l2-mz.121-19.EA1a.bin"
```

cisco WS-C2950-24 (RC32300) processor (revision M0) with 20809K bytes of memory.

```
Processor board ID FOC0750Z2EJ
Last reset from system-reset
Running Standard Image
24 FastEthernet/IEEE 802.3 interface(s)
```

32K bytes of flash-simulated non-volatile configuration memory.

```
Base ethernet MAC Address: 00:0E:84:79:EB:00
Motherboard assembly number: 73-5781-12
Power supply part number: 34-0965-01
Motherboard serial number: FOC07501F2H
Power supply serial number: DAB0750H74S
Model revision number: M0
Motherboard revision number: B0
Model number: WS-C2950-24
System serial number: FOC0750Z2EJ
Configuration register is 0xF
```

----- show running-config -----

Building configuration...

```
Current configuration : 3769 bytes
!
! Last configuration change at 13:48:33 JST Tue Aug 10 2004
! NVRAM config last updated at 13:49:05 JST Tue Aug 10 2004
!
version 12.1
no service pad
service timestamps debug datetime msec localtime show-timezone
service timestamps log datetime msec localtime show-timezone
service password-encryption
no service dhcp
!
hostname c2950-1
!
enable password 7 05080901355E41050A
!
clock timezone JST 9
ip subnet-zero
!
no ip domain-lookup
!
!
spanning-tree mode pvst
no spanning-tree optimize bpdu transmission
spanning-tree extend system-id
spanning-tree uplinkfast
!
!
interface FastEthernet0/1
switchport mode access
no ip address
spanning-tree portfast
!
interface FastEthernet0/2
switchport mode access
no ip address
spanning-tree portfast
!
interface FastEthernet0/3
switchport mode access
no ip address
spanning-tree portfast
!
interface FastEthernet0/4
switchport mode access
no ip address
spanning-tree portfast
!
```

```
interface FastEthernet0/5
switchport mode access
no ip address
spanning-tree portfast
!
interface FastEthernet0/6
switchport mode access
no ip address
spanning-tree portfast
!
interface FastEthernet0/7
switchport mode access
no ip address
spanning-tree portfast
!
interface FastEthernet0/8
switchport mode access
no ip address
spanning-tree portfast
!
interface FastEthernet0/9
switchport mode access
no ip address
spanning-tree portfast
!
interface FastEthernet0/10
switchport mode access
no ip address
spanning-tree portfast
!
interface FastEthernet0/11
switchport mode access
no ip address
spanning-tree portfast
!
interface FastEthernet0/12
switchport mode access
no ip address
spanning-tree portfast
!
interface FastEthernet0/13
switchport mode access
no ip address
spanning-tree portfast
!
interface FastEthernet0/14
switchport mode access
no ip address
spanning-tree portfast
!
interface FastEthernet0/15
switchport mode access
no ip address
spanning-tree portfast
!
interface FastEthernet0/16
switchport mode access
no ip address
spanning-tree portfast
!
interface FastEthernet0/17
switchport mode access
no ip address
spanning-tree portfast
!
interface FastEthernet0/18
switchport mode access
no ip address
spanning-tree portfast
!
interface FastEthernet0/19
switchport access vlan 2
switchport mode access
no ip address
spanning-tree portfast
!
interface FastEthernet0/20
switchport access vlan 2
switchport mode access
no ip address
spanning-tree portfast
!
interface FastEthernet0/21
switchport access vlan 3
switchport mode access
no ip address
spanning-tree portfast
!
interface FastEthernet0/22
switchport access vlan 3
switchport mode access
no ip address
spanning-tree portfast
!
```

```
interface FastEthernet0/23
switchport trunk allowed vlan 1-3,100
switchport mode trunk
no ip address
!
interface FastEthernet0/24
switchport trunk allowed vlan 1-3,100
switchport mode trunk
no ip address
!
interface Vlan1
ip address 172.19.65.41 255.255.224.0
ip broadcast-address 172.19.95.255
no ip route-cache
!
ip default-gateway 172.19.64.1
ip http server
!
snmp-server community controls RW
snmp-server community public RO
snmp-server trap-source Vlan1
snmp-server chassis-id c2950-1
snmp-server enable traps snmp warmstart coldstart
snmp-server enable traps config
snmp-server enable traps c2900
snmp-server enable traps envmon fan shutdown supply temperature
banner exec ^C
*****
HW : Catalyst2950-24
Host Name : c2950-1
Management IP : 172.19.65.41
*****
^C
!
line con 0
password 7 02050B551F14002D5F
login
line vty 0 4
password 7 02050B551F14002D5F
login
line vty 5 15
login
!
ntp clock-period 17179981
ntp server 172.19.65.31
!
monitor session 1 destination remote vlan 100 reflector-port Fa0/18
end
```

## 7 - 4 . c2950-2

----- show version -----

```
Cisco Internetwork Operating System Software
IOS (tm) C2950 Software (C2950-I6Q4L2-M), Version 12.1(19)EA1a, RELEASE
SOFTWARE
(fc1)
Copyright (c) 1986-2003 by cisco Systems, Inc.
Compiled Tue 09-Dec-03 00:12 by yenanh
Image text-base: 0x80010000, data-base: 0x8058A000
```

ROM: Bootstrap program is C2950 boot loader

```
c2950-2 uptime is 2 weeks, 1 day, 22 hours, 16 minutes
System returned to ROM by power-on
System restarted at 18:32:03 JST Sun Jul 25 2004
System image file is "flash:/c2950-i6q4l2-mz.121-19.EA1a.bin"
```

cisco WS-C2950-24 (RC32300) processor (revision M0) with 20809K bytes of memory.

```
Processor board ID FOC0801Z0Q2
Last reset from system-reset
Running Standard Image
24 FastEthernet/IEEE 802.3 interface(s)
```

32K bytes of flash-simulated non-volatile configuration memory.

```
Base ethernet MAC Address: 00:0E:D7:90:9A:CO
Motherboard assembly number: 73-5781-12
Power supply part number: 34-0965-01
Motherboard serial number: FOC07530508
Power supply serial number: PHI075001AM
Model revision number: M0
Motherboard revision number: B0
Model number: WS-C2950-24
System serial number: FOC0801Z0Q2
Configuration register is 0xF
```

----- show running-config -----

Building configuration...

```
Current configuration : 3769 bytes
!
! Last configuration change at 13:50:33 JST Tue Aug 10 2004
! NVRAM config last updated at 13:50:34 JST Tue Aug 10 2004
!
version 12.1
no service pad
service timestamps debug datetime msec localtime show-timezone
service timestamps log datetime msec localtime show-timezone
service password-encryption
no service dhcp
!
hostname c2950-2
!
enable password 7 14141D051816252737
!
clock timezone JST 9
ip subnet-zero
!
no ip domain-lookup
!
!
spanning-tree mode pvst
no spanning-tree optimize bpdu transmission
spanning-tree extend system-id
spanning-tree uplinkfast
!
!
interface FastEthernet0/1
switchport mode access
no ip address
spanning-tree portfast
!
interface FastEthernet0/2
switchport mode access
no ip address
spanning-tree portfast
!
interface FastEthernet0/3
switchport mode access
no ip address
spanning-tree portfast
!
interface FastEthernet0/4
switchport mode access
no ip address
spanning-tree portfast
!
```

```
interface FastEthernet0/5
switchport mode access
no ip address
spanning-tree portfast
!
interface FastEthernet0/6
switchport mode access
no ip address
spanning-tree portfast
!
interface FastEthernet0/7
switchport mode access
no ip address
spanning-tree portfast
!
interface FastEthernet0/8
switchport mode access
no ip address
spanning-tree portfast
!
interface FastEthernet0/9
switchport mode access
no ip address
spanning-tree portfast
!
interface FastEthernet0/10
switchport mode access
no ip address
spanning-tree portfast
!
interface FastEthernet0/11
switchport mode access
no ip address
spanning-tree portfast
!
interface FastEthernet0/12
switchport mode access
no ip address
spanning-tree portfast
!
interface FastEthernet0/13
switchport mode access
no ip address
spanning-tree portfast
!
interface FastEthernet0/14
switchport mode access
no ip address
spanning-tree portfast
!
interface FastEthernet0/15
switchport mode access
no ip address
spanning-tree portfast
!
interface FastEthernet0/16
switchport mode access
no ip address
spanning-tree portfast
!
interface FastEthernet0/17
switchport mode access
no ip address
spanning-tree portfast
!
interface FastEthernet0/18
switchport mode access
no ip address
spanning-tree portfast
!
interface FastEthernet0/19
switchport access vlan 2
switchport mode access
no ip address
spanning-tree portfast
!
interface FastEthernet0/20
switchport access vlan 2
switchport mode access
no ip address
spanning-tree portfast
!
interface FastEthernet0/21
switchport access vlan 3
switchport mode access
no ip address
spanning-tree portfast
!
interface FastEthernet0/22
switchport access vlan 3
switchport mode access
no ip address
spanning-tree portfast
!
```

```
interface FastEthernet0/23
switchport trunk allowed vlan 1-3,100
switchport mode trunk
no ip address
!
interface FastEthernet0/24
switchport trunk allowed vlan 1-3,100
switchport mode trunk
no ip address
!
interface Vlan1
ip address 172.19.65.42 255.255.224.0
ip broadcast-address 172.19.95.255
no ip route-cache
!
ip default-gateway 172.19.64.1
ip http server
!
snmp-server community controls RW
snmp-server community public RO
snmp-server trap-source Vlan1
snmp-server chassis-id c2950-2
snmp-server enable traps snmp warmstart coldstart
snmp-server enable traps config
snmp-server enable traps c2900
snmp-server enable traps envmon fan shutdown supply temperature
banner exec ^C
*****
HW : Catalyst2950-24
Host Name : c2950-2
Management IP : 172.19.65.42
*****
^C
!
line con 0
password 7 082243401D0B0A1B01
login
line vty 0 4
password 7 070C2E425A1B160904
login
line vty 5 15
login
!
ntp clock-period 17180131
ntp server 172.19.65.31
!
monitor session 1 destination remote vlan 100 reflector-port Fa0/18
end
```

## 7 - 5 . c2950-3

----- show version -----

```
Cisco Internetwork Operating System Software
IOS (tm) C2950 Software (C2950-I6Q4L2-M), Version 12.1(19)EA1a, RELEASE
SOFTWARE
(fc1)
Copyright (c) 1986-2003 by cisco Systems, Inc.
Compiled Tue 09-Dec-03 00:12 by yenanh
Image text-base: 0x80010000, data-base: 0x8058A000
```

ROM: Bootstrap program is C2950 boot loader

```
c2950-3 uptime is 2 weeks, 1 day, 22 hours, 18 minutes
System returned to ROM by power-on
System restarted at 18:32:03 JST Sun Jul 25 2004
System image file is "flash:/c2950-i6q4l2-mz.121-19.EA1a.bin"
```

cisco WS-C2950-24 (RC32300) processor (revision M0) with 20809K bytes of memory.

```
Processor board ID FOC0750Y2JD
Last reset from system-reset
Running Standard Image
24 FastEthernet/IEEE 802.3 interface(s)
```

32K bytes of flash-simulated non-volatile configuration memory.

```
Base ethernet MAC Address: 00:0E:84:75:8C:00
Motherboard assembly number: 73-5781-12
Power supply part number: 34-0965-01
Motherboard serial number: FOC075005X
Power supply serial number: DAB0750H7B0
Model revision number: M0
Motherboard revision number: B0
Model number: WS-C2950-24
System serial number: FOC0750Y2JD
Configuration register is 0xF
```

----- show running-config -----

Building configuration...

```
Current configuration : 3769 bytes
!
! Last configuration change at 13:51:46 JST Tue Aug 10 2004
! NVRAM config last updated at 13:51:47 JST Tue Aug 10 2004
!
version 12.1
no service pad
service timestamps debug datetime msec localtime show-timezone
service timestamps log datetime msec localtime show-timezone
service password-encryption
no service dhcp
!
hostname c2950-3
!
enable password 7 070C2E425A1B160904
!
clock timezone JST 9
ip subnet-zero
!
no ip domain-lookup
!
!
spanning-tree mode pvst
no spanning-tree optimize bpdu transmission
spanning-tree extend system-id
spanning-tree uplinkfast
!
!
interface FastEthernet0/1
switchport mode access
no ip address
spanning-tree portfast
!
interface FastEthernet0/2
switchport mode access
no ip address
spanning-tree portfast
!
interface FastEthernet0/3
switchport mode access
no ip address
spanning-tree portfast
!
interface FastEthernet0/4
switchport mode access
no ip address
spanning-tree portfast
!
```

```
interface FastEthernet0/5
switchport mode access
no ip address
spanning-tree portfast
!
interface FastEthernet0/6
switchport mode access
no ip address
spanning-tree portfast
!
interface FastEthernet0/7
switchport mode access
no ip address
spanning-tree portfast
!
interface FastEthernet0/8
switchport mode access
no ip address
spanning-tree portfast
!
interface FastEthernet0/9
switchport mode access
no ip address
spanning-tree portfast
!
interface FastEthernet0/10
switchport mode access
no ip address
spanning-tree portfast
!
interface FastEthernet0/11
switchport mode access
no ip address
spanning-tree portfast
!
interface FastEthernet0/12
switchport mode access
no ip address
spanning-tree portfast
!
interface FastEthernet0/13
switchport mode access
no ip address
spanning-tree portfast
!
interface FastEthernet0/14
switchport mode access
no ip address
spanning-tree portfast
!
interface FastEthernet0/15
switchport mode access
no ip address
spanning-tree portfast
!
interface FastEthernet0/16
switchport mode access
no ip address
spanning-tree portfast
!
interface FastEthernet0/17
switchport mode access
no ip address
spanning-tree portfast
!
interface FastEthernet0/18
switchport mode access
no ip address
spanning-tree portfast
!
interface FastEthernet0/19
switchport access vlan 2
switchport mode access
no ip address
spanning-tree portfast
!
interface FastEthernet0/20
switchport access vlan 2
switchport mode access
no ip address
spanning-tree portfast
!
interface FastEthernet0/21
switchport access vlan 3
switchport mode access
no ip address
spanning-tree portfast
!
interface FastEthernet0/22
switchport access vlan 3
switchport mode access
no ip address
spanning-tree portfast
!
```

```
interface FastEthernet0/23
switchport trunk allowed vlan 1-3,100
switchport mode trunk
no ip address
!
interface FastEthernet0/24
switchport trunk allowed vlan 1-3,100
switchport mode trunk
no ip address
!
interface Vlan1
ip address 172.19.65.43 255.255.224.0
ip broadcast-address 172.19.95.255
no ip route-cache
!
ip default-gateway 172.19.64.1
ip http server
!
snmp-server community controls RW
snmp-server community public RO
snmp-server trap-source Vlan1
snmp-server chassis-id c2950-2
snmp-server enable traps snmp warmstart coldstart
snmp-server enable traps config
snmp-server enable traps c2900
snmp-server enable traps envmon fan shutdown supply temperature
banner exec ^C
*****
HW : Catalyst2950-24
Host Name : c2950-3
Management IP : 172.19.65.43
*****
^C
!
line con 0
password 7 104D061711051D071F
login
line vty 0 4
password 7 0110090A4F19090332
login
line vty 5 15
login
!
ntp clock-period 17180148
ntp server 172.19.65.31
!
monitor session 1 destination remote vlan 100 reflector-port Fa0/18
end
```



## 7 - 6 . c2950-4

----- show version -----

```
Cisco Internetwork Operating System Software
IOS (tm) C2950 Software (C2950-I6Q4L2-M), Version 12.1(19)EA1a, RELEASE
SOFTWARE
(fc1)
Copyright (c) 1986-2003 by cisco Systems, Inc.
Compiled Tue 09-Dec-03 00:12 by yanah
Image text-base: 0x80010000, data-base: 0x8058A000
```

ROM: Bootstrap program is C2950 boot loader

```
c2950-4 uptime is 2 weeks, 1 day, 22 hours, 22 minutes
System returned to ROM by power-on
System image file is "flash:/c2950-i6q4l2-mz.121-19.EA1a.bin"
```

cisco WS-C2950-24 (RC32300) processor (revision M0) with 20809K bytes of memory.

```
Processor board ID FOC0750Z29W
Last reset from system-reset
Running Standard Image
24 FastEthernet/IEEE 802.3 interface(s)
```

32K bytes of flash-simulated non-volatile configuration memory.

```
Base ethernet MAC Address: 00:0E:84:79:9D:40
Motherboard assembly number: 73-5781-12
Power supply part number: 34-0965-01
Motherboard serial number: FOC07500YJP
Power supply serial number: DAB0750H77T
Model revision number: M0
Motherboard revision number: B0
Model number: WS-C2950-24
System serial number: FOC0750Z29W
Configuration register is 0xF
```

----- show running-config -----

Building configuration...

Current configuration : 3597 bytes

```
!
version 12.1
no service pad
service timestamps debug datetime msec localtime show-timezone
service timestamps log datetime msec localtime show-timezone
service password-encryption
no service dhcp
!
hostname c2950-4
!
enable password 7 05080901355E41050A
!
clock timezone JST 9
ip subnet-zero
!
no ip domain-lookup
!
!
spanning-tree mode pvst
no spanning-tree optimize bpdu transmission
spanning-tree extend system-id
spanning-tree uplinkfast
!
!
interface FastEthernet0/1
switchport mode access
no ip address
spanning-tree portfast
!
interface FastEthernet0/2
switchport mode access
no ip address
spanning-tree portfast
!
interface FastEthernet0/3
switchport mode access
no ip address
spanning-tree portfast
!
interface FastEthernet0/4
switchport mode access
no ip address
spanning-tree portfast
!
interface FastEthernet0/5
switchport mode access
no ip address
spanning-tree portfast
```

```
!
interface FastEthernet0/6
switchport mode access
no ip address
spanning-tree portfast
!
interface FastEthernet0/7
switchport mode access
no ip address
spanning-tree portfast
!
interface FastEthernet0/8
switchport mode access
no ip address
spanning-tree portfast
!
interface FastEthernet0/9
switchport mode access
no ip address
spanning-tree portfast
!
interface FastEthernet0/10
switchport mode access
no ip address
spanning-tree portfast
!
interface FastEthernet0/11
switchport mode access
no ip address
spanning-tree portfast
!
interface FastEthernet0/12
switchport mode access
no ip address
spanning-tree portfast
!
interface FastEthernet0/13
switchport mode access
no ip address
spanning-tree portfast
!
interface FastEthernet0/14
switchport mode access
no ip address
spanning-tree portfast
!
interface FastEthernet0/15
switchport mode access
no ip address
spanning-tree portfast
!
interface FastEthernet0/16
switchport mode access
no ip address
spanning-tree portfast
!
interface FastEthernet0/17
switchport mode access
no ip address
spanning-tree portfast
!
interface FastEthernet0/18
switchport mode access
no ip address
spanning-tree portfast
!
interface FastEthernet0/19
switchport access vlan 2
switchport mode access
no ip address
spanning-tree portfast
!
interface FastEthernet0/20
switchport access vlan 2
switchport mode access
no ip address
spanning-tree portfast
!
interface FastEthernet0/21
switchport access vlan 3
switchport mode access
no ip address
spanning-tree portfast
!
interface FastEthernet0/22
switchport access vlan 3
switchport mode access
no ip address
spanning-tree portfast
!
interface FastEthernet0/23
switchport trunk allowed vlan 1-3,100
switchport mode trunk
no ip address
```

```
!  
interface FastEthernet0/24  
switchport trunk allowed vlan 1-3,100  
switchport mode trunk  
no ip address  
!  
interface Vlan1  
ip address 172.19.65.44 255.255.224.0  
ip broadcast-address 172.19.95.255  
no ip route-cache  
!  
ip default-gateway 172.19.64.1  
ip http server  
!  
snmp-server community controls RW  
snmp-server community public RO  
snmp-server trap-source Vlan1  
snmp-server chassis-id c2950-4  
snmp-server enable traps snmp warmstart coldstart  
snmp-server enable traps config  
snmp-server enable traps c2900  
snmp-server enable traps envmon fan shutdown supply temperature  
banner exec ^C  
*****  
HW : Catalyst2950-24  
Host Name : c2950-4  
Management IP : 172.19.65.44  
*****  
^C  
!  
line con 0  
password 7 0110090A4F19090332  
login  
line vty 0 4  
password 7 14141D051816252737  
login  
line vty 5 15  
login  
!  
!  
monitor session 1 destination remote vlan 100 reflector-port Fa0/18  
end
```

