

一、中小企业 (SMB) 部署到IDC的业务, 初始阶段

- 1、最简模式
- 2、网络规划
- 192.168.1.0/24 搞定一切
- 交换机:
- 内网x1
- 外网x1

二、改进1

- 1、网络逻辑图
- (后附, 参考右侧)
- 2、机柜规划图
- (后附)

3、网络实验图

IP地址划分

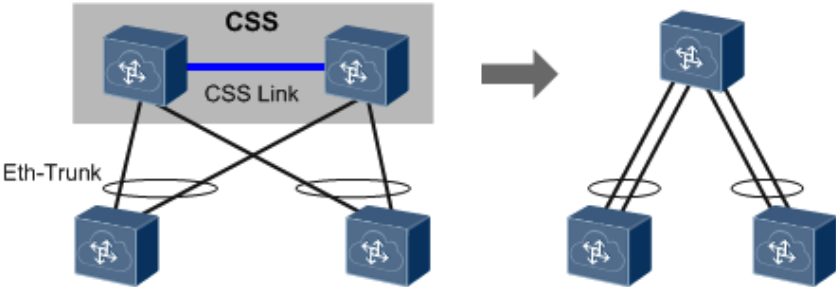
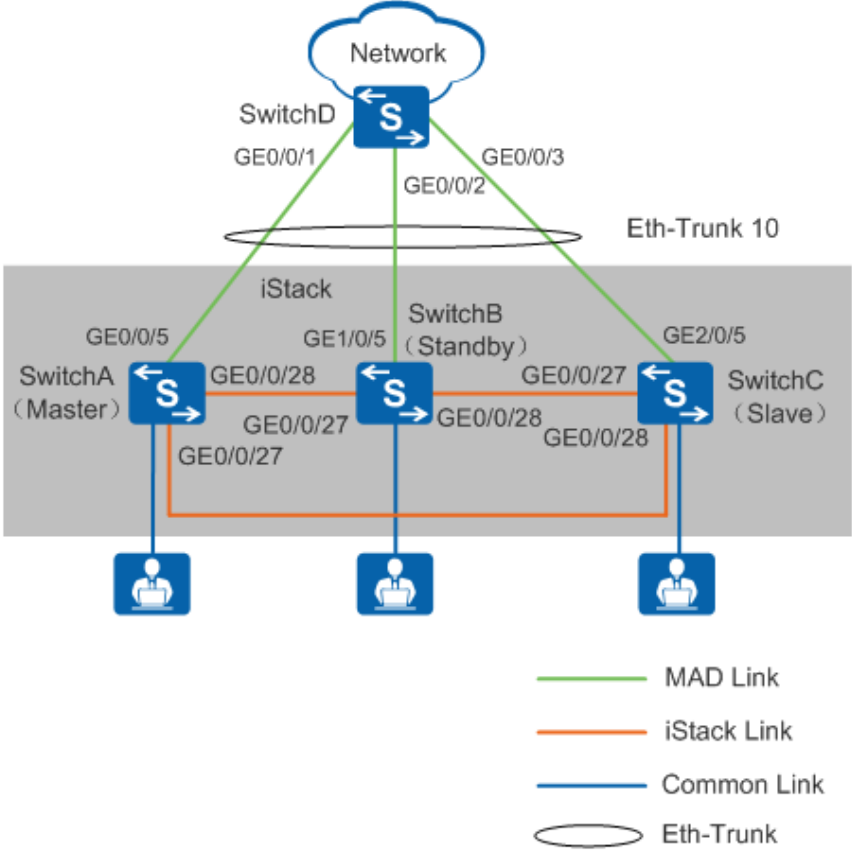
=====

对于 172.30.0.0/18(255.255.192.0) 主机数量hosts=16382			
=====			
网络	主机数□		广播地址
	从	到	
=====			
172.30.0.0	172.30.0.1	172.30.63.254	172.30.63.255
172.30.64.0	172.30.64.1	172.30.127.254	172.30.127.255
172.30.128.0	172.30.128.1	172.30.191.254	172.30.191.255
172.30.192.0	172.30.192.1	172.30.255.254	172.30.255.255
=====			

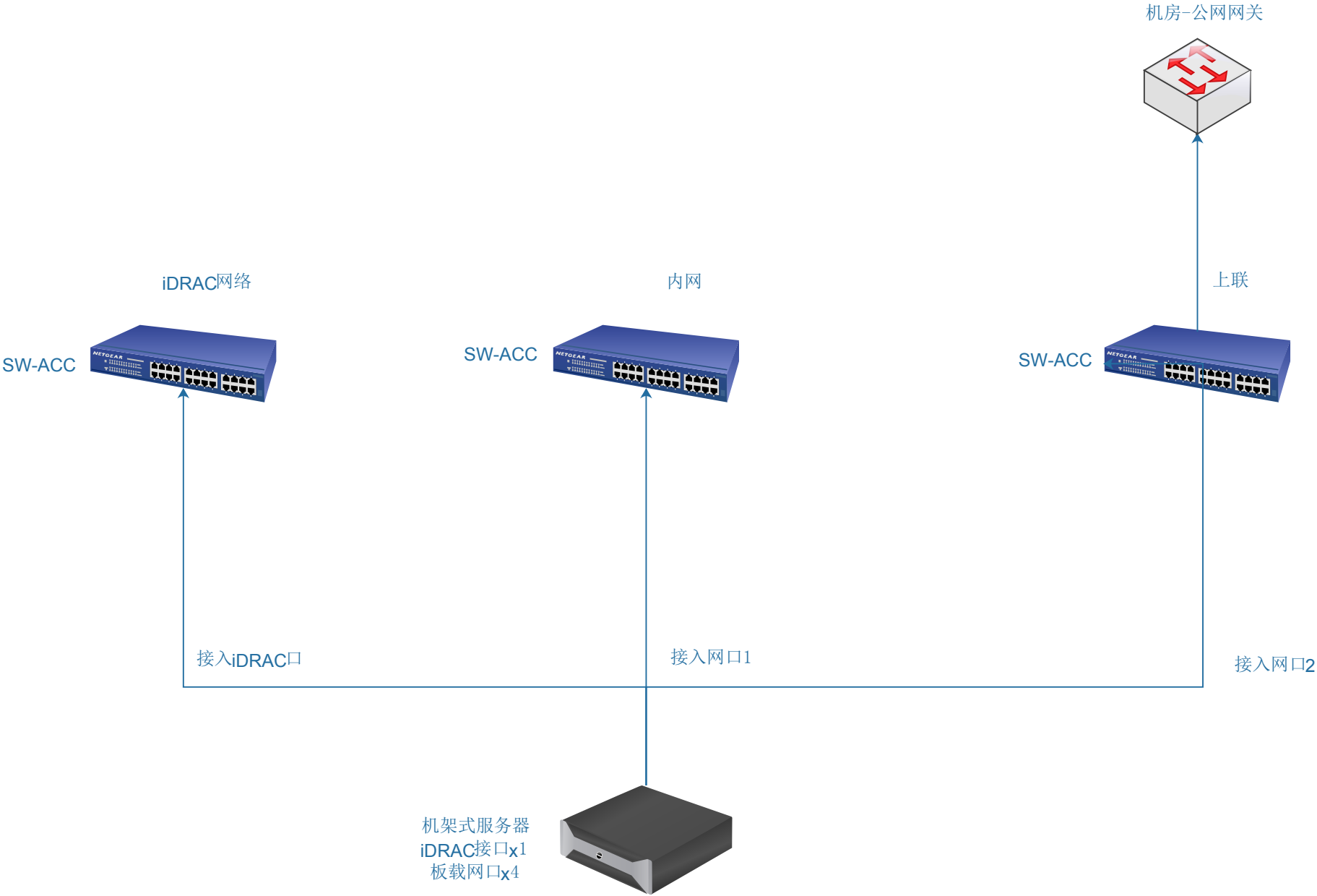
三、改进2

- 1、流量分离
- 2、内外网边界分割

图14-13 堆叠组建后的组网

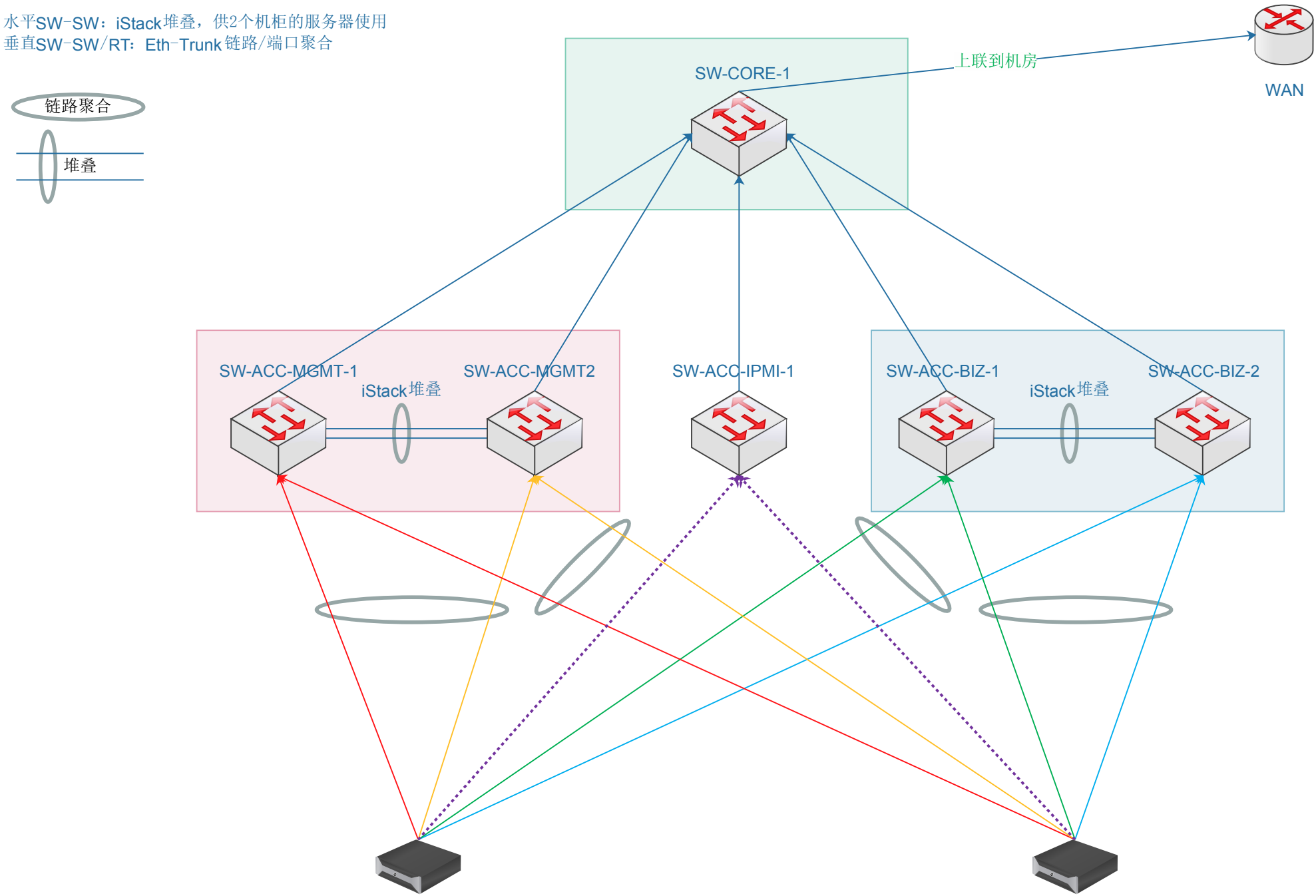


一、初始阶段

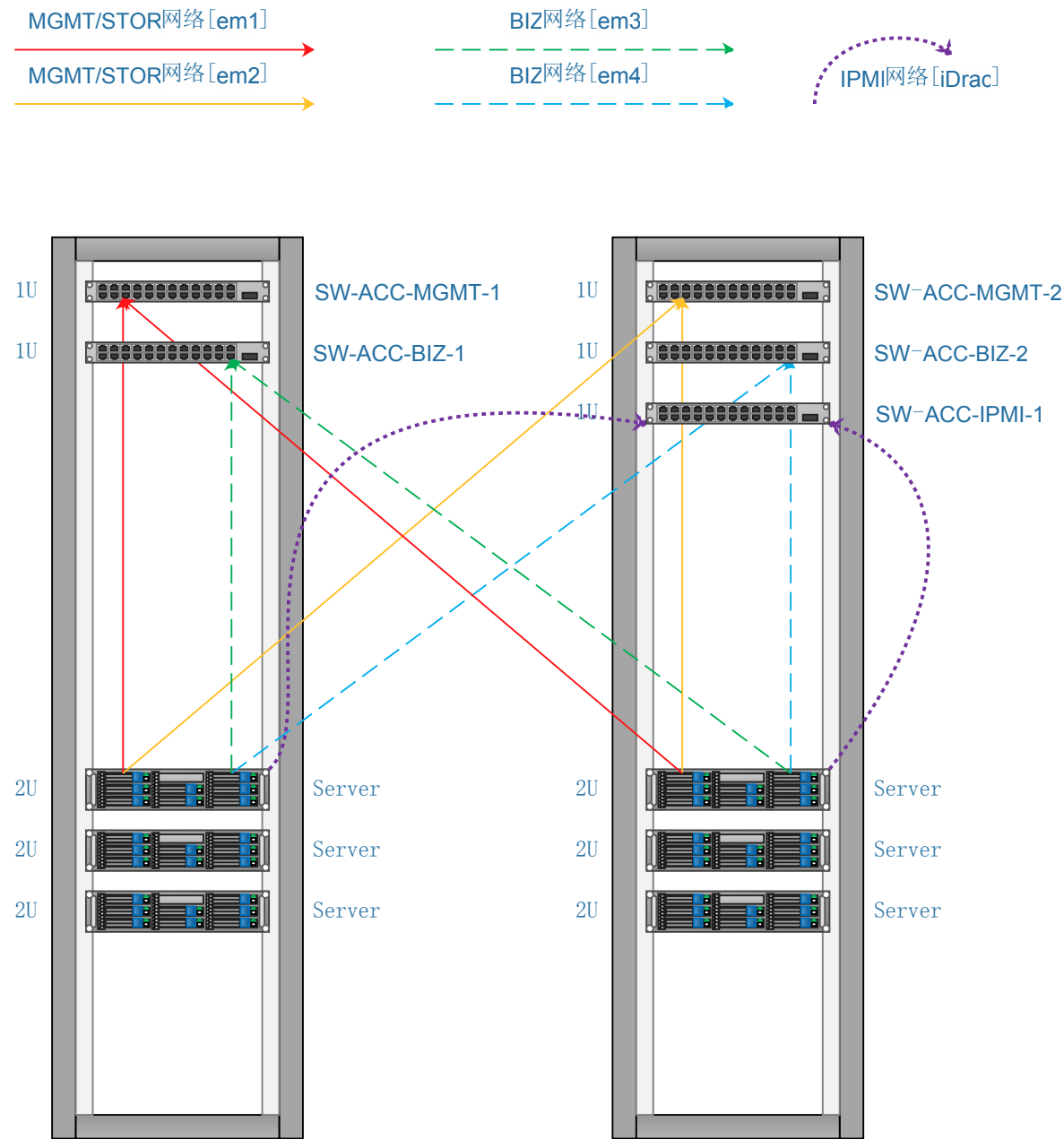


二、改进1
1、网络逻辑图

水平SW-SW: iStack堆叠, 供2个机柜的服务器使用
垂直SW-SW/RT: Eth-Trunk 链路/端口聚合



二、改进1
2、机柜规划图



交换机的端口规划（以24口交换机为例，若使用48口交换机可以考虑划分2个VLAN）：
S5710-28C-EI，24T口+4S口
| 业务 | 堆叠 |

| 1..23 | 25..27 |
| 2..24 | 26..28 |

1个机柜(<=12服务器)，其中，SW的业务口分配规则如下：

iDrac(专用口)	-> 上联 SW-ACC-I PMI-1
MGMT/STOR(网口1)	-> 上联 SW-ACC-MGMT-1
MGMT/STOR(网口2)	-> 上联 SW-ACC-MGMT-2
BIZ(网口3)	-> 上联SW-ACC-BIZ-1
BIZ(网口4)	-> 上联SW-ACC-BIZ-2

二、改进1

3、网络实验图(full vlan模式)

私有云网络规划涂鸦(full vlan模式)

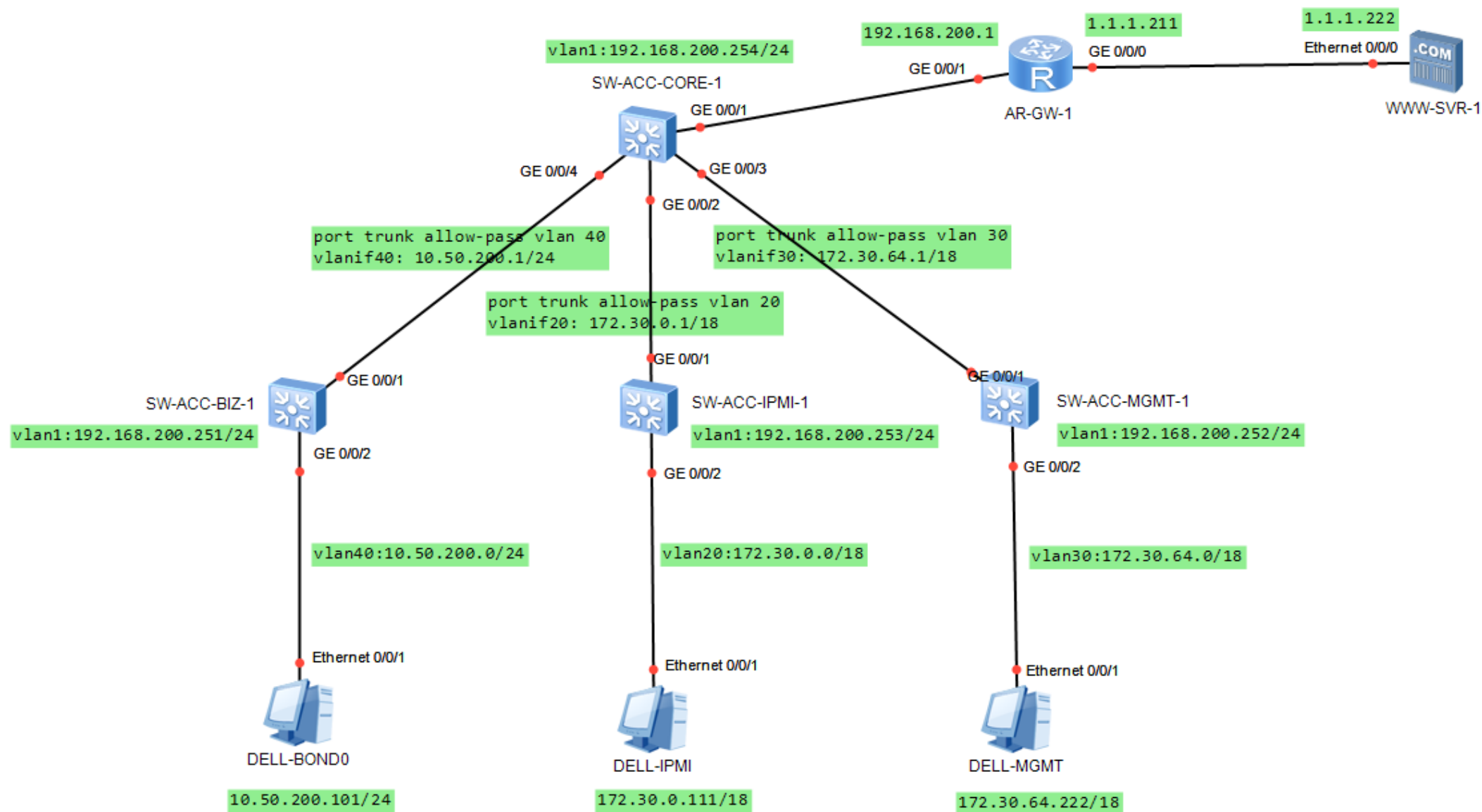
2016/9/29

via PC

```
[traffic-policy] on [SW-ACC-CORE-1] GE 0/0/2 inbound:
```

```
rule deny ip source 10.50.200.0 0.0.0.255 destination 172.30.0.0 0.0.63.255
```

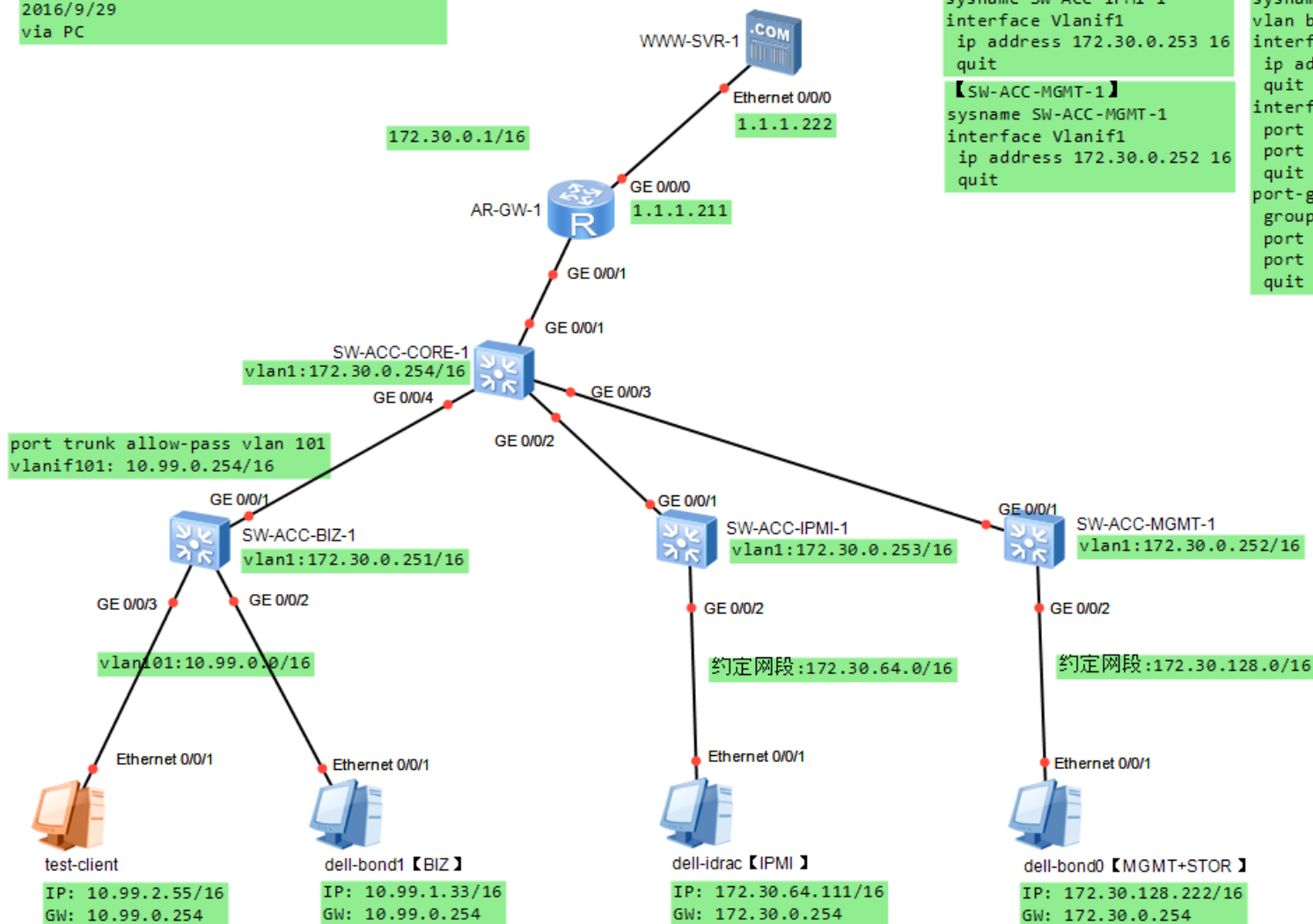
```
rule deny ip source 10.50.200.0 0.0.0.255 destination 172.30.64.0 0.0.63.255
```



二、改进1

3、网络实验图(single vlan[BIZ]模式)

私有云网络规划涂鸦(single vlan[BIZ]模式)
2016/9/29
via PC



```
【SW-ACC-IPMI-1】
sysname SW-ACC-IPMI-1
interface Vlanif1
ip address 172.30.0.253 16
quit
【SW-ACC-MGMT-1】
sysname SW-ACC-MGMT-1
interface Vlanif1
ip address 172.30.0.252 16
quit
```

```
【SW-ACC-BIZ-1】
sysname SW-ACC-BIZ-1
vlan batch 101
interface Vlanif1
ip address 172.30.0.251 255.255.0.0
quit
interface GigabitEthernet0/0/1
port link-type trunk
port trunk allow-pass vlan 101
quit
port-group 1
group-member GigabitEthernet0/0/2 to GigabitEthernet0/0/24
port link-type access
port default vlan 101
quit
```

```
【SW-ACC-CORE-1】
sysname SW-ACC-CORE-1
vlan batch 101
interface Vlanif1
ip address 172.30.0.254 16
quit
interface Vlanif101
ip address 10.99.0.254 16
quit
interface GigabitEthernet0/0/4
port link-type trunk
port trunk allow-pass vlan 101
quit
ip route-static 0.0.0.0 0.0.0.0 172.30.0.1
```

```
【AR-GW-1】
sysname AR-GW-1
acl number 2000
rule permit source 10.99.0.0 0.0.255.255
rule permit source 172.30.0.0 0.0.255.255
quit
interface GigabitEthernet0/0/0
ip address 1.1.1.211 24
nat outbound 2000
quit
interface GigabitEthernet0/0/1
ip address 172.30.0.1 16
quit
ip route-static 0.0.0.0 0.0.0.0 1.1.1.222
ip route-static 10.99.0.0 255.255.0.0 172.30.0.254
ip route-static 172.30.0.0 255.255.0.0 172.30.0.254
```

二、改进2
1、网络逻辑图

忽略SW冗余：iStack 和 Eth-Trunk。

网段划分：

【交换机VLAN:1】

SW-管理口: 10.1.0.0/20

【物理机VLAN: 30】

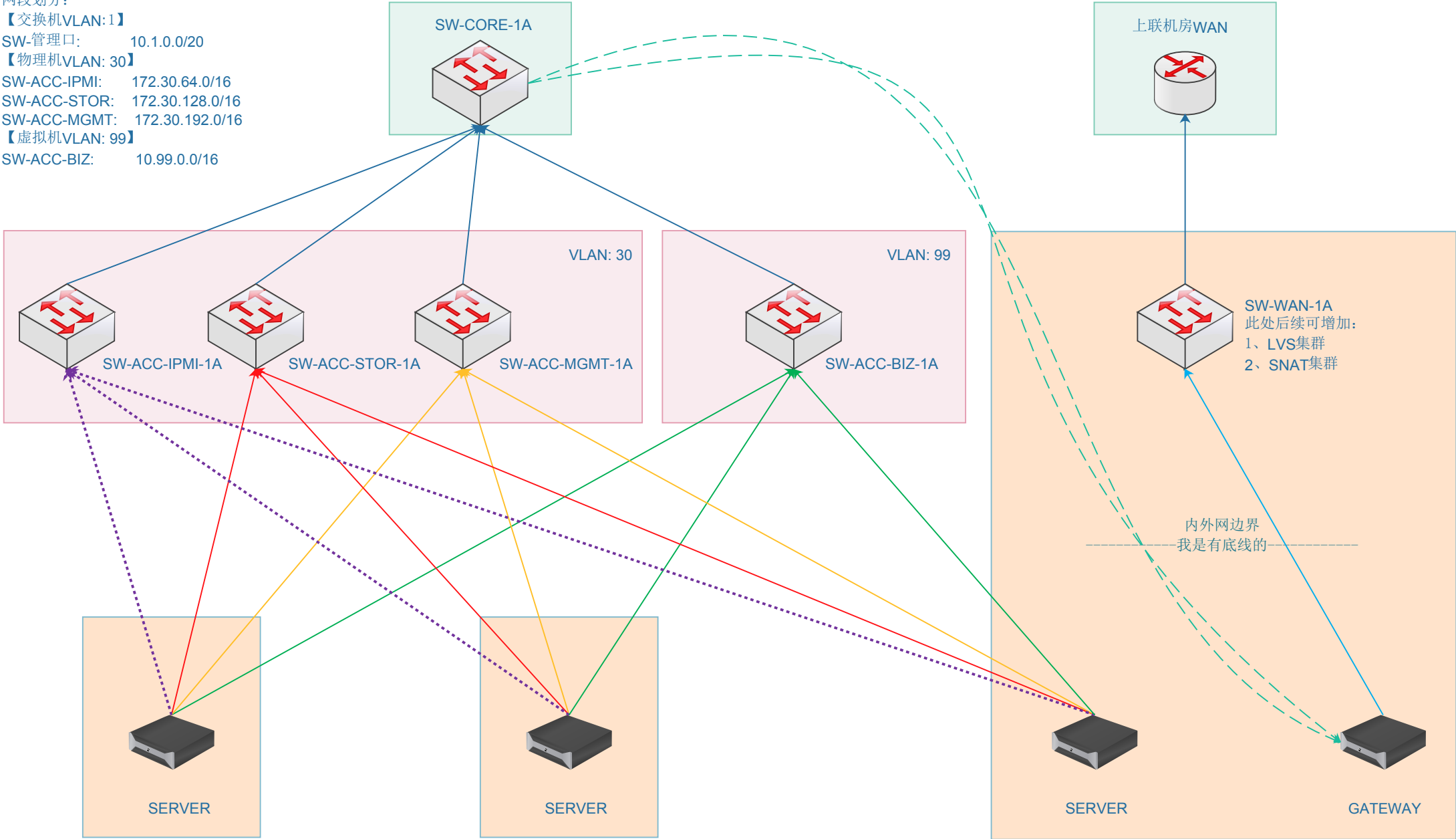
SW-ACC-IPMI: 172.30.64.0/16

SW-ACC-STOR: 172.30.128.0/16

SW-ACC-MGMT: 172.30.192.0/16

【虚拟机VLAN: 99】

SW-ACC-BIZ: 10.99.0.0/16

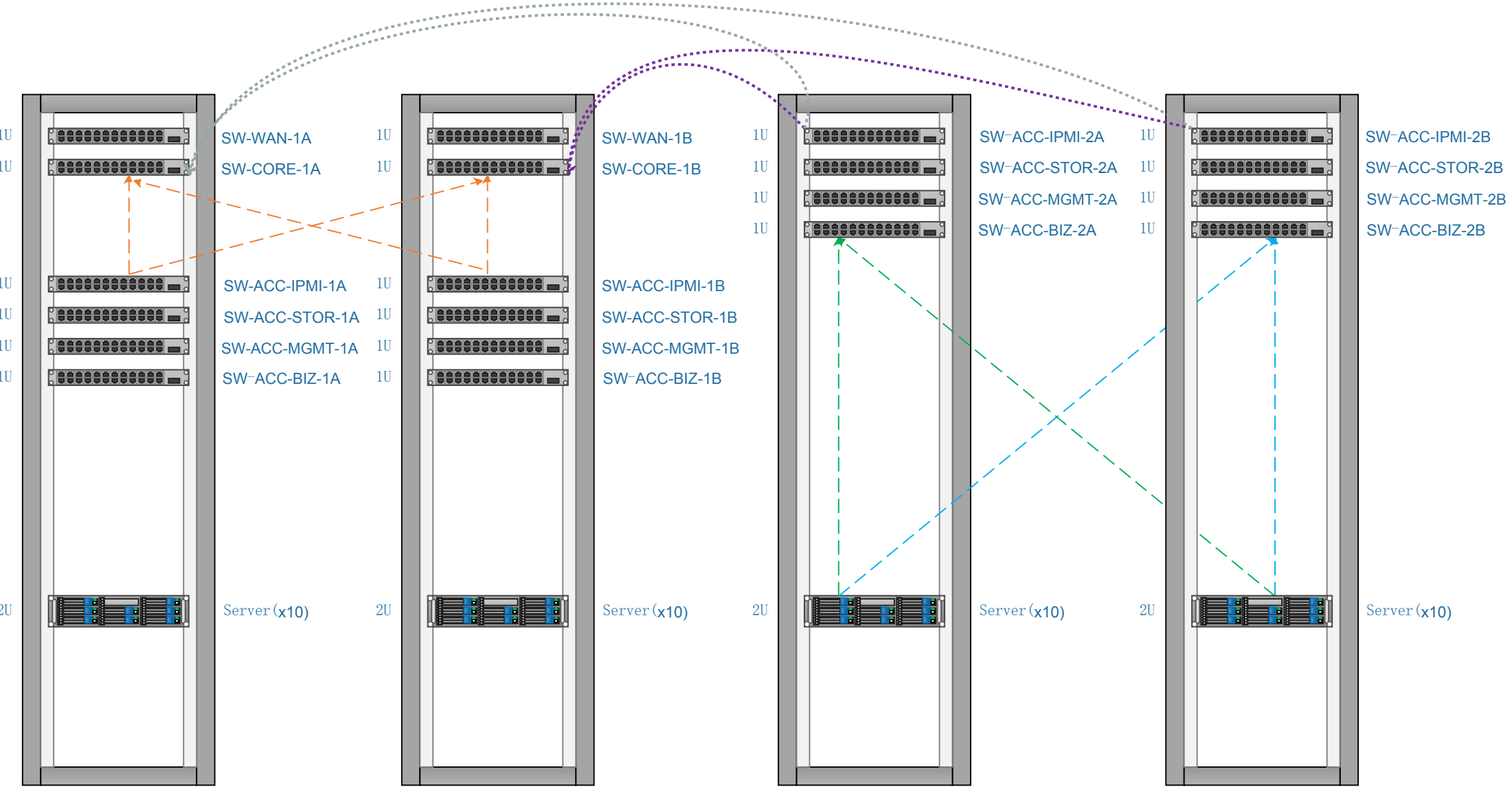


三、改进2
2、机柜规划图

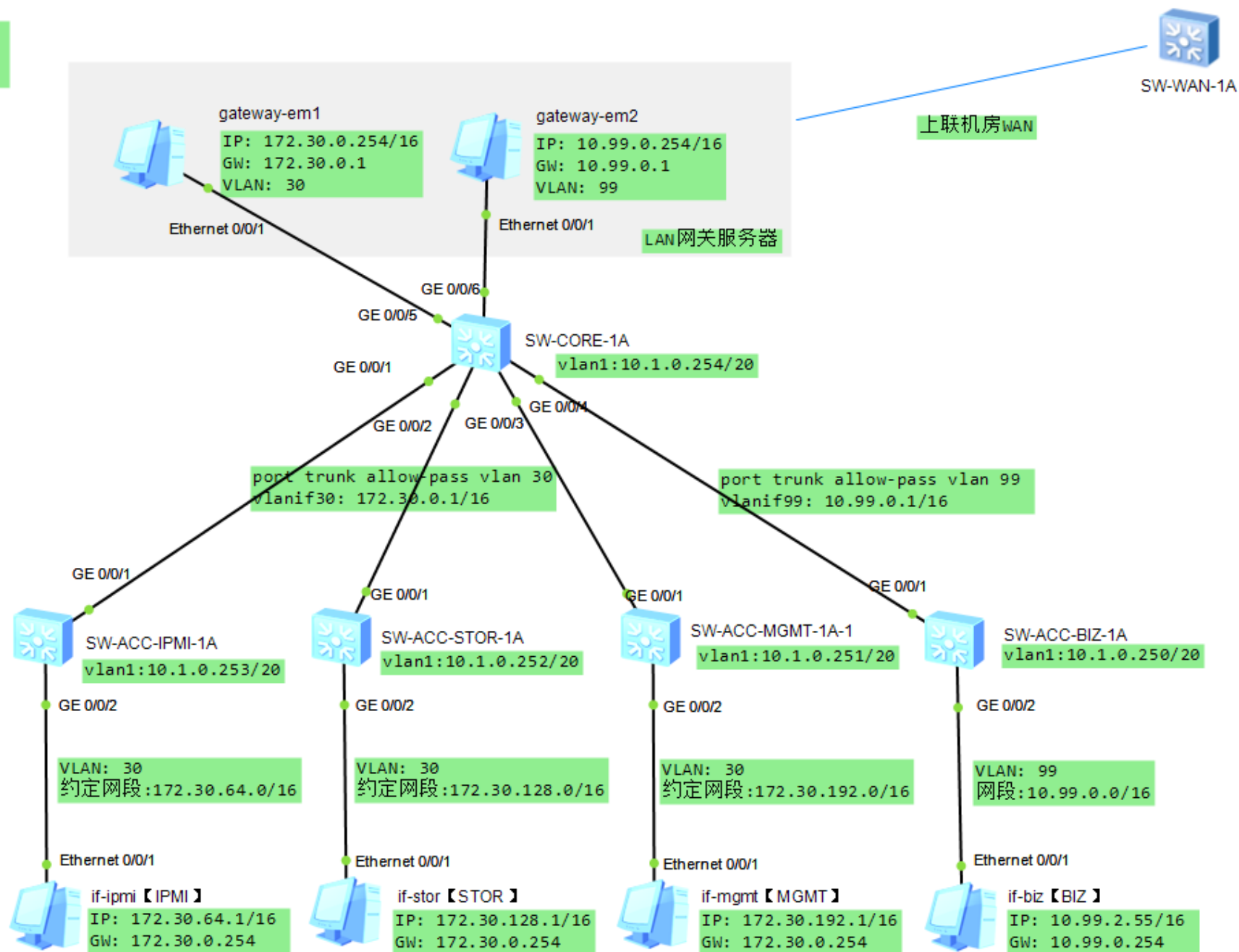
链路汇聚示例（以IPMI为例，其他类似）

如果使用2个48口的交换机，则这样规划端口：

[SW-48-A]	1-24	25-48
	SW-ACC-IPMI	SW-ACC-STOR
[SW-48-B]	1-24	25-48
	SW-ACC-MGMT	SW-ACC-BIZ



私有云网络规划涂鸦
2016/12/9
via PC



```
【SW-ACC-IPMI-1A】
sys
sysname SW-ACC-IPMI-1A
interface Vlanif1
ip address 10.1.0.253 20
quit
vlan batch 30
interface GigabitEthernet0/0/1
port link-type trunk
port trunk allow-pass vlan 30
quit
port-group 1
group-member GigabitEthernet0/0/2 to GigabitEthernet0/0/24
port link-type access
port default vlan 30
quit
ip route-static 0.0.0.0 0.0.0.0 10.1.0.254
quit
save
```

```
【SW-ACC-STOR-1A】
sys
sysname SW-ACC-STOR-1A
interface Vlanif1
ip address 10.1.0.252 20
quit
vlan batch 30
interface GigabitEthernet0/0/1
port link-type trunk
port trunk allow-pass vlan 30
quit
port-group 1
group-member GigabitEthernet0/0/2 to GigabitEthernet0/0/24
port link-type access
port default vlan 30
quit
ip route-static 0.0.0.0 0.0.0.0 10.1.0.254
quit
save
```

```
【SW-ACC-MGMT-1A】
sys
sysname SW-ACC-MGMT-1A
interface Vlanif1
ip address 10.1.0.251 20
quit
vlan batch 30
interface GigabitEthernet0/0/1
port link-type trunk
port trunk allow-pass vlan 30
quit
port-group 1
group-member GigabitEthernet0/0/2 to GigabitEthernet0/0/24
port link-type access
port default vlan 30
quit
ip route-static 0.0.0.0 0.0.0.0 10.1.0.254
quit
save
```

```
【SW-ACC-BIZ-1A】
sys
sysname SW-ACC-BIZ-1A
interface Vlanif1
ip address 10.1.0.250 20
quit
vlan batch 99
interface GigabitEthernet0/0/1
port link-type trunk
port trunk allow-pass vlan 99
quit
port-group 1
group-member GigabitEthernet0/0/2 to GigabitEthernet0/0/24
port link-type access
port default vlan 99
quit
ip route-static 0.0.0.0 0.0.0.0 10.1.0.254
quit
save
```

```
【SW-CORE-1】
sys
sysname SW-CORE-1A
interface Vlanif1
ip address 10.1.0.254 20
quit
vlan batch 30 99
interface Vlanif30
ip address 172.30.0.1 16
quit
interface Vlanif99
ip address 10.99.0.1 16
quit
interface GigabitEthernet0/0/1
port link-type trunk
port trunk allow-pass vlan 30
quit
interface GigabitEthernet0/0/2
port link-type trunk
port trunk allow-pass vlan 30
quit
interface GigabitEthernet0/0/3
port link-type trunk
port trunk allow-pass vlan 30
quit
interface GigabitEthernet0/0/4
port link-type trunk
port trunk allow-pass vlan 99
quit
interface GigabitEthernet0/0/5
port link-type access
port default vlan 30
quit
interface GigabitEthernet0/0/6
port link-type access
port default vlan 99
quit
quit
save
```

如果要在SW-CORE-1上限制VLAN间路由，请参考下述内容，配置ACL策略，然后在指定的接口应用策略：

```
acl 3001
rule deny ip source 10.99.0.0 0.0.255.255 destination 172.30.0.0 0.0.255.255
rule deny ip source 10.99.0.0 0.0.255.255 destination 10.1.0.0 0.0.255.255
quit
traffic classifier tc1
if-match acl 3001
quit
traffic behavior tb1
deny
quit
traffic policy tp1
classifier tc1 behavior tb1
quit
```

```
int GigabitEthernet 0/0/4
traffic-policy tp1 inbound
quit
int GigabitEthernet 0/0/6
traffic-policy tp1 inbound
quit
```