

Article Overview

Huawei Layer 3 switches can serve as DHCP servers and gateways for APs, enabling Layer 3 connectivity to the AC and client devices.

Network Design Overview

In a typical enterprise WLAN deployment:

- o Layer 3 switch acts as the aggregation switch and DHCP server for APs and clients.
- o Wireless Access Controller (AC) manages APs and establishes tunnels for centralized forwarding.
- o APs connect to the Layer 3 switch, often via PoE-enabled ports.
- o Upstream router provides Internet access and NAT services if required .

VLANs are used to separate management, AP, and client traffic. For example:

- o Management VLAN for APs (e.g., VLAN 2)
- o AC VLAN (e.g., VLAN 100)
- o Client VLANs (e.g., VLAN 200, 300)
- o AP VLAN (e.g., VLAN 400) for tunnel establishment .

Layer 3 Switch Configuration Steps

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Enable Layer 3 on the switch interface By default, Huawei switch ports operate in Layer 2 mode. To use Layer 3 functions, convert the interface:

```
interface gigabitethernet 0/0/2[Switch-GigabitEthernet0/0/2] undo portswitch[Switch-GigabitEthernet0/0/2]  
ip address 192.168.2.1 255.255.255.0
```

This allows the switch to route traffic between VLANs and act as a gateway .

o

Configure VLANs and assign interfaces

```
vlan batch 2 100 200 300 400 interface gigabitethernet 0/0/2[Switch-GigabitEthernet0/0/2] port link-type  
trunk[Switch-GigabitEthernet0/0/2] port trunk allow-pass vlan 2 400
```

This ensures APs can communicate with the management VLAN and establish tunnels with the AC .

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Enable DHCP for APs and clients

Huawei Layer 3 Switch Access AP

```
dhcp enable
ip pool AP_POOL[Switch-dhcp-pool] network 192.168.2.0 24[Switch-dhcp-pool] gateway-list 192.168.2.1[Switch-dhcp-pool] option 43 ip-address 192.168.100.1
```

Option 43 provides the AC's IP address to APs for discovery .

o

Configure static routes if needed

```
ip route-static 0.0.0.0 0.0.0.0 192.168.100.1
```

This allows APs and clients to reach the AC and upstream router for Internet access .

o

Enable PoE for AP ports

```
[Switch-GigabitEthernet0/0/2] poe enable
```

Ensures APs receive power over Ethernet .

Verification

o Ping the AC from the Layer 3 switch to confirm connectivity.

o Ensure APs obtain IP addresses from the DHCP pool.

o Test client connectivity through the AP to verify VLAN routing and Internet access .

Summary

By configuring VLANs, enabling Layer 3 interfaces, setting up DHCP with Option 43, and providing PoE, Huawei Layer 3 switches can effectively manage AP access and client traffic in a campus network. This setup supports centralized forwarding, inter-VLAN routing, and scalable WLAN deployment.

VLAN Routing with Huawei Layer 3 Switches. Here we will focus How to Configure VLAN Routing on Huawei devices

In our VLAN Routing Huawei Configuration Example, firstly we will configure, each interfaces of the L3 Switch. We will set these

AC6508 is a small-capacity, fixed wireless Access Controller (AC) for small- and medium-sized

Another way to achieve mutual access between different network segments and different vlan hosts is to configure Layer 3 switching,

Huawei Layer 3 Switch Access AP

A practical, no-fluff guide to selecting a Huawei Layer 3 switch--covering models, configuration essentials, real-world

The above topology is an enterprise Network design where one Huawei Switch S5735, USG 6500E firewall, and

Solution Overview Solution description: In the firewall + L2 switch + AP networking scenario, multiple APs provide wireless coverage,

Example for Switching an Interface to Layer 3 Mode Networking Requirements In Figure 2-12, PC1, PC2, and PC3 are

Layer 3 Switch Layer 3 switches provide the routing function, which indicates a network-layer function in the OSI

Example for Configuring APs to Go Online Through IPv6 at Layer 3 Service Requirements In a Layer 3 networking

HUAWEI AC + AP Layer 3 switching basic online configuration, Programmer Sought, the best programmer technical posts sharing site.

Example for Configuring Layer 3 Tunnel Forwarding in Bypass Mode Service Requirements Enterprise users can

Layer 3 switches can work at Layer 2 and Layer 3 and be deployed at the access layer or aggregation layer as user

In Figure 2-44, a company has multiple departments that belong to different network segments, and each department needs to

In a summary, a Layer 3 switch provides high-speed Layer 3 switching through one routing process (forwarding the first packet to the

Example for Configuring a Layer 3 Switch to Work with a Firewall for Internet Access Layer 3 Switch Layer 3 switches provide the

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