

# Migrating Voice VLAN Configurations From Catalyst 1000 to Catalyst 1300

## Objective

The objective of this guide is to provide a structured approach for network administrators to migrate existing Voice VLAN configurations from Cisco Catalyst 1000 switches to the newer Cisco Catalyst 1300 series. This article highlights the architectural differences between these platforms and provides the necessary steps to ensure a secure and efficient migration.

## Hardware

- **Legacy Platform:** Cisco Catalyst 1000 Series
- **Target Platform:** Cisco Business 1300 Series
- **Endpoint:** Cisco IP Phone 6851

## Prerequisites

- **Data/Management VLAN:** 20
- **Voice VLAN:** 100
- **Default VLAN (Native):** 1 (Unused for security reasons)

## Introduction

Migrating voice services requires an understanding of the fundamental differences in operating systems and configuration logic. While the Catalyst 1000 series utilize classic Cisco IOS, the Catalyst 1300 series operate on a customized Linux-based software. This shift allows for more advanced traffic management, such as auto-surveillance VLANs and enhanced prioritization. But this requires a change in configuration methodology, specifically moving from access-mode configurations to trunk-mode configurations.

## Key Configuration Differences

Understanding these differences is critical for a successful migration:

- **Configuration Scope:** The Catalyst 1000 applies Voice VLAN settings at the interface level. The Catalyst 1300 series requires defining the Voice VLAN in Global Configuration mode first.
- **Port Mode:** On the Catalyst 1000, ports remain in access mode. On the Catalyst 1300, ports connected to IP phones are configured as trunks to allow for automatic detection of voice and data traffic.
- **Security:** It is highly recommended to avoid using the default VLAN 1 as the native VLAN. On the Catalyst 1300, you must explicitly remove VLAN 1 from the trunk to prevent security vulnerabilities.

## Configuration - Catalyst 1000

On Catalyst 1000 switches, Voice VLAN settings are applied directly to the interface while maintaining the port in access mode.

## Phone/Desktop Port Configuration

```
interface GigabitEthernet1/0/8  
  
switchport access vlan 20  
  
switchport voice vlan 100  
  
spanning-tree portfast edge
```

## Uplink Port Configuration

The uplink port is configured as a trunk to allow both Data and Voice VLANs.

```
interface GigabitEthernet1/0/9  
  
switchport mode trunk
```

## Configuration - Catalyst 1300

The Catalyst 1300 series streamlines management by using a global configuration approach for Voice VLANs.

## Global Setup

```
voice vlan id 100  
  
voice vlan state auto-enabled
```

## Phone/Desktop Port Configuration

On the Catalyst 1300, ports are configured as trunks to allow automatic detection of Voice or Data traffic. It is critical to remove the default VLAN 1 as the native VLAN to maintain security.

```
interface range gil-18  
  
switchport mode trunk  
  
switchport trunk native vlan 20  
  
switchport trunk allowed vlan remove 1
```

## Uplink Port Configuration

```
interface GigabitEthernet16
```

```
switchport mode trunk
```

## Verification

To ensure a successful migration, perform the following checks on both platforms:

- 1 MAC Address Table - Verify that the IP Phone MAC address appears in both the Data VLAN (initial negotiation) and the Voice VLAN.

```
show mac address-table interface [interface id]
```

- 2 CDP Neighbors - Confirm that the switch correctly identifies the connected IP phone and the peer switch.

```
show cdp neighbors detail
```

- 3 Connectivity - Verify management connectivity via ping.

```
ping [phone_ip_address]
```

## Troubleshooting

If devices fail to communicate or register properly, consider the following:

- Check MAC Tables: If the phone only appears in the Data VLAN, verify the global voice vlan configuration and the interface settings.
- Verify Trunking: Ensure the Native VLAN matches on both ends of the uplink and that the required VLANs (20 and 100) are explicitly allowed on the trunk.
- CDP Status: Use show cdp neighbors detail to ensure the switch is correctly advertising the Voice VLAN to the IP phone.
- Firmware: Ensure the Catalyst 1300 switch is running the latest firmware version if specific commands are not recognized.

## Conclusion

Migrating to the Cisco Business 1300 series offers a more efficient, global approach to managing Voice VLANs. By following the configuration steps outlined above and performing the recommended verification checks, administrators can ensure a seamless transition that maintains network security and optimal performance for voice communications.