

Case Study:

Installing NovoConnect in a Multi-VLAN Environment

Some companies and schools configure their WiFi networks to have two distinct VLANs

- (1) One for employees or teachers, to have greater network access
- (2) The other for guests or students.

Since NovoConnect is a network resource that might be shared among employees/guests, or teachers/students, this multi-VLAN environment requires a bit more effort to enable the proper operations of NovoConnect devices.

This document describes a way to install NovoConnect devices in such a multi-VLAN environment, which has been implemented in a large-sized company successfully.

I. Network Topology

Figure 1 illustrates the existing network topology, where

- (1) VLAN_A is deployed for employees
- (2) VLAN_B is deployed for guests

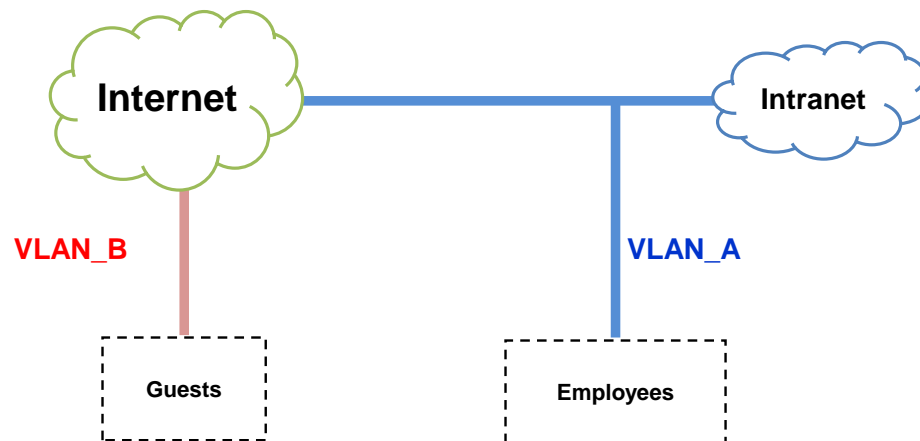


Fig. 1 Existing Network Topology

To share NovoConnect devices between VLAN_A and VLAN_B users, a third VLAN, VLAN_C, is created as some sort of “bridge,” as shown in Figure 2.

- (1) NovoConnect devices will be connected to this newly-created VLAN.
- (2) Access control between VLAN_A and VLAN_C (or between VLAN_B and VLAN_C) can be achieved through ACL (Access Control List) mechanism.

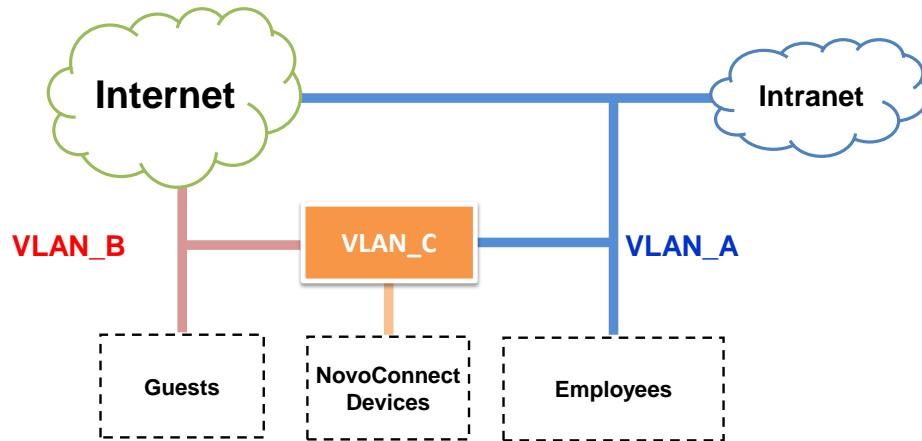


Fig. 2 Adding a New VLAN

II. Implementation Details

Figure 3 illustrates the network implementation. Comparing to Figure 2, you will notice that the main configuration is done at L2 (Layer-2) Switch layer.

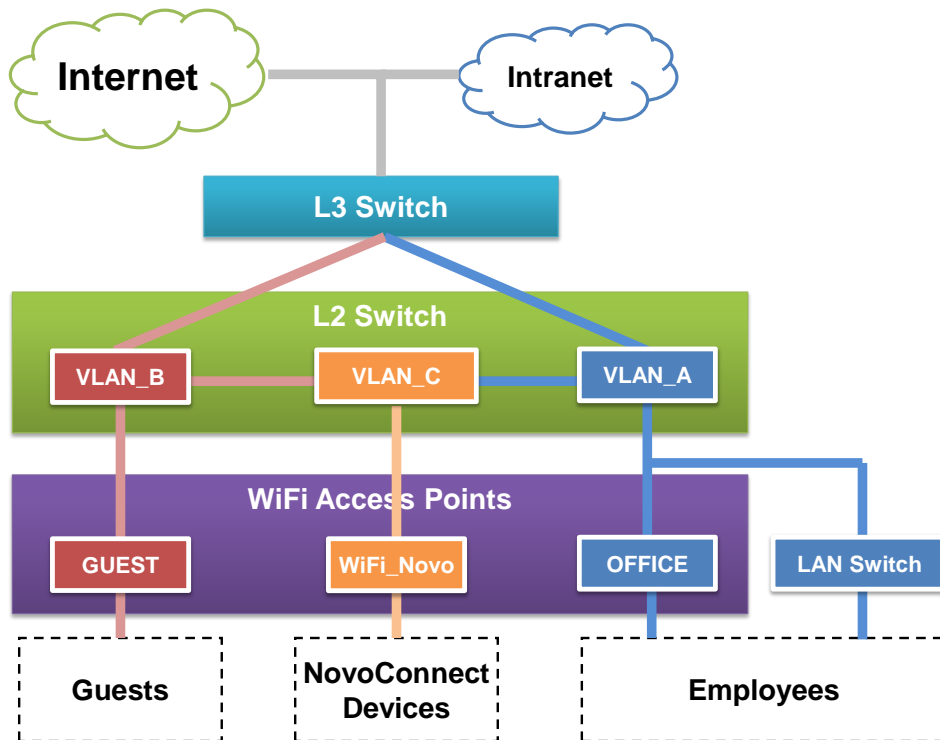


Fig. 3 Implementation Details

The steps to configure the L2 layer and the NovoConnect devices are as followings.

- (1) **L2 Layer:** Build a new SSID named “WiFi_Novo” with MAC authentication enabled. (MAC authentication is chosen because of ease of setup for fixed-location network asset.)

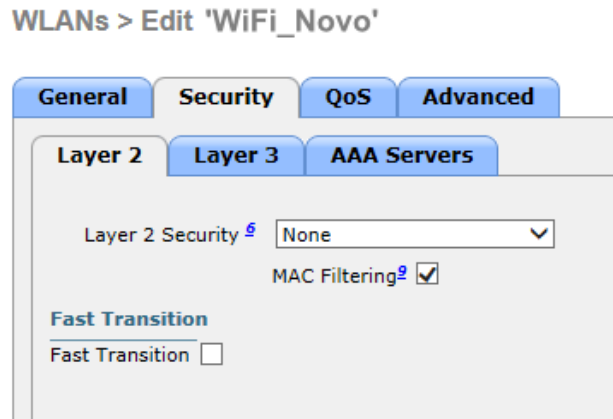


Fig. 4 L2 Configuration: MAC Authentication

- (2) **L2 Layer:** In the Wireless LAN Controller (WLC), enter and allocate MAC addresses of all NovoConnect devices to SSID “WiFi_Novo.” As a result, only these NovoConnect devices are allowed to be connected to SSID “WiFi_Novo.”

MAC Address	Profile Name	Interface	IP Address	Description
d0:eb:03:fc:f3:71	NovoConnect	vlan10	unknown	IOT RFID05

Fig. 5 L2 Configuraton: WLC’s screen-shot

- (3) **NovoConnect Device:** Now we turn to the NovoConnect devices. Connect them to SSID “WiFi_Novo” without any security mechanism. (Please note that MAC-filtering has been enabled at network’s L2 Layer.)

Connecting a NovoConnect device to “WiFi_Novo” can be done either through the PC software (Desktop Streamer) or by connected a mouse to the NovoConnect device. Figure 6 is a screen-shot of the latter approach.

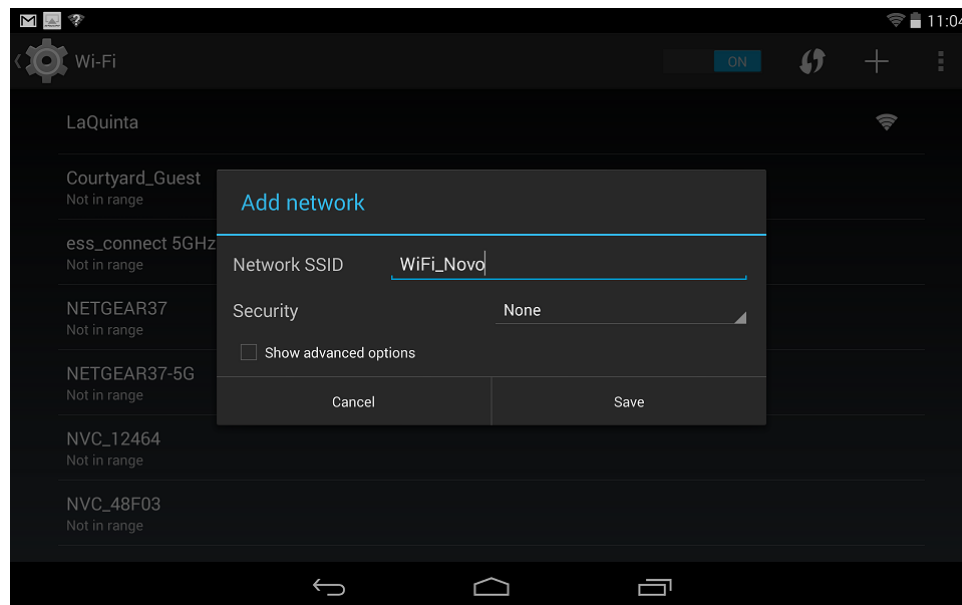


Fig. 6 Screenshot: Connected to SSID “WiFi_Novo”

- (4) **Done:** After the NovoConnect device is connected to SSID “WiFi_Novo,” its IP address is allocated by a DHCP server. At this point, users at both VLAN_A and VLAN_B can access this NovoConnect device.

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