Wildix Megabit VLAN Switch - Scenario 1

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- Switch ports
- IP addresses
- Phones configuration in the WMS
- Switch configuration
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- Switch ports
- Switch configuration
- Conclusion
Wildix Megabit VLAN Switch - Scenario 1

Introduction
The network configuration requires the separation of voice and data networks. The protocol IEEE 802.1Q makes it possible to use the same switch but maintain two layers separately for the packets transition. The mixed configuration of Tagged and Untagged requires specific configuration of phones and Wildix PoE Switches.

The ports dedicated to connecting the phones should allow the transition of tagged packets for both Voice and Data VLAN, while the ports dedicated to PC connection and WMS should transit only the packets of the specified VLAN that result untagged at the output of the switch, without having to program VLAN on PC, printers, NAS, and each device connected to the network.

Network configuration
• 100 Voice VLAN (192.168.100.0/24)
• 200 Data VLAN (192.168.200.0/24)

Switch ports
• 1: WMS
• 2-6: Data networks
• 7-8: Voice networks

IP addresses
• WMS: 192.168.100.199 Untagged
• Tel1: 192.168.100.101 VLAN 100
• Tel2: 192.168.100.102 VLAN 100
• PC1: 192.168.200.100 VLAN 200
• PC2: 192.168.200.101 VLAN 200

Phones configuration in the WMS
Configure the phone ports: check the box “Voice VLAN ID” and enter the value “100” into the field, check “Data VLAN ID” and enter the value “200” into the field.
Switch configuration
Select the mode “Tag Based VLAN” in the menu VLAN Setting > VLAN mode and select “Remove Tag” option for the ports 1-6, and the option “Add Tag” for the ports 7-8.

The switch is configured to remove all VLAN tags from outgoing packets on ports 1-6, so that the WMS and the connected PCs can receive them. The tag is added for the ports 7-8, since the network interfaces of the phone require the VLAN tag.

Add VLAN 100 and 200 to the switch configuration in the menu VLAN Setting > VLAN Member and configure the ports as shown on the screenshot.

The switch is configured with ports 1, 7, 8 belonging to the VLAN 100 and the ports 2-8 belonging to VLAN 200. Tagged packets will only pass through these ports.

Port 1 is also set up with PVID (Port VLAN Identifier) 100, which combined with the previous configuration assigns the incoming packets to VLAN 100 and adds the tag where necessary (ports 7 and 8).

Ports 2-6 are set up with PVID (Port VLAN Identifier) 200, which combined with the previous configuration assigns the incoming packets to VLAN 200 and adds the tag where necessary (ports 7 and 8).

Conclusion
After the configuration is over, the switch will allow the transition of the packets tagged for both Voice and Data VLAN and will:
add VLAN 100 (Voice) tag for all the incoming packets on the port 1
add VLAN 200 (Data) tag for all the incoming packets on the ports 2-6
remove VLAN (Voice or Data) tag for all the outgoing packets on the ports 1-6
maintain the correct VLAN tag for the outgoing packets on the ports 7 and 8
The PCs connected to the secondary data port of the phones will belong to VLAN 200 (Data)
Wildix Megabit VLAN Switch - Scenario 2

Introduction
The network configuration requires the separation of voice and data networks. The protocol IEEE 802.1Q makes it possible to use the same switch but maintain two layers separately for the packets transition. The configuration is completely untagged and dedicates each port to a different service.

Network configuration
Voice VLAN (192.168.100.0/24)
Data VLAN (192.168.200.0/24)

Switch ports
1-4: Voice network
5-8: Data network

Switch configuration
Select the mode “Port based VLAN” in the menu VLAN Setting > VLAN mode and define which ports should join the group for each selected port. You should receive the following result:

<table>
<thead>
<tr>
<th>Port</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>v</td>
<td>v</td>
<td>v</td>
<td>v</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>2</td>
<td>v</td>
<td>v</td>
<td>v</td>
<td>v</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>3</td>
<td>v</td>
<td>v</td>
<td>v</td>
<td>v</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>4</td>
<td>v</td>
<td>v</td>
<td>v</td>
<td>v</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>5</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>v</td>
<td>v</td>
<td>v</td>
<td>v</td>
</tr>
<tr>
<td>6</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>v</td>
<td>v</td>
<td>v</td>
<td>v</td>
</tr>
<tr>
<td>7</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>v</td>
<td>v</td>
<td>v</td>
<td>v</td>
</tr>
<tr>
<td>8</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>v</td>
<td>v</td>
<td>v</td>
<td>v</td>
</tr>
</tbody>
</table>

The switch is configured with two separate areas. The ports that can communicate are marked in the intersections of the table with “V” sign, while the ports that cannot communicate are marked with “-”.

Conclusion
After the configuration is over, the switch will allow the communication between the devices belonging to the same group without the need to set up any kind of VLAN configuration on devices.
Wildix Gigabit VLAN Switch - Scenario 1

Introduction
The network configuration requires the separation of voice and data networks. The protocol IEEE 802.1Q makes it possible to use the same switch but maintain two layers separately for the packets transition. The mixed configuration of Tagged and Untagged requires specific configuration of phones and Wildix PoE Switches.

The ports dedicated to connecting the phones should allow the transition of tagged packets for both Voice and Data VLAN, while the ports dedicated to PC connection and WMS should transit only the packets of the specified VLAN that result untagged at the output of the switch, without having to program VLAN on PC, printers, NAS, and each device connected to the network.

Network configuration
- 100 Voice VLAN (192.168.100.0/24)
- 200 Data VLAN (192.168.200.0/24)

Switch ports
- 1: WMS
- 2-6: Data networks
- 7-8: Voice networks

IP addresses
- WMS: 192.168.100.199 Untagged
- Tel1: 192.168.100.101 VLAN 100
- Tel2: 192.168.100.102 VLAN 100
- PC1: 192.168.200.100 VLAN 200
- PC2: 192.168.200.101 VLAN 200

Phones configuration in the WMS
Configure the phone ports: check the box “Voice VLAN ID” and enter the value “100” into the field, check “Data VLAN ID” and enter the value “200” into the field.
Switch configuration

Go to the menu VLAN Setting and add VLAN 100 and 200 that will be respectively used for Voice and Data network. Set up VLAN 100 and 200 as shown on the screenshot: enable the ports 1, 7 and 8 for VLAN 100 and the ports 2-8 for VLAN 200.

<table>
<thead>
<tr>
<th>VLAN ID: 100</th>
<th>VLAN ID: 200</th>
</tr>
</thead>
<tbody>
<tr>
<td>Port</td>
<td>Member</td>
</tr>
<tr>
<td>Port 1</td>
<td>✓</td>
</tr>
<tr>
<td>Port 2</td>
<td>✓</td>
</tr>
<tr>
<td>Port 3</td>
<td>✓</td>
</tr>
<tr>
<td>Port 4</td>
<td>✓</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>VLAN ID: 100</th>
<th>VLAN ID: 200</th>
</tr>
</thead>
<tbody>
<tr>
<td>Port</td>
<td>Member</td>
</tr>
<tr>
<td>Port 1</td>
<td>✓</td>
</tr>
<tr>
<td>Port 2</td>
<td>✓</td>
</tr>
<tr>
<td>Port 3</td>
<td>✓</td>
</tr>
<tr>
<td>Port 4</td>
<td>✓</td>
</tr>
</tbody>
</table>

This configuration assigns the switch ports to a specified VLAN.

Go to the menu “port config” and enable “VLAN Aware” option for all the ports. This parameter allows the separation of two zones. Define the ports 7 and 8 (the ports to which the phones will be connected with PCs in cascade) as “Tagged Only” with PVID “none”, as the PVID is already present in the received packets. The correct PVIDs should be assigned to other ports, as shown on the screenshot.

The switch is configured with ports 1, 7, 8 belonging to the VLAN 100 and the ports 2-8 belonging to VLAN 200. Tagged packets will only pass through these ports.

Port 1 is also set up with PVID (Port VLAN Identifier) 100, which combined with the previous configuration assigns the incoming packets to VLAN 100 and adds the tag where necessary (ports 7 and 8).

Ports 2-6 are set up with PVID (Port VLAN Identifier) 200, which combined with the previous configuration assigns the incoming packets to VLAN 200 and adds the tag where necessary (ports 7 and 8).

Conclusion

After the configuration is over, the switch will allow the transition of the packets tagged for both Voice and Data VLAN and will:

- add VLAN 100 (Voice) tag for all the incoming packets on the port 1
- add VLAN 200 (Data) tag for all the incoming packets on the ports 2-6
- remove VLAN (Voice or Data) tag for all the outgoing packets on the ports 1-6
- maintain the correct VLAN tag for the outgoing packets on the ports 7 and 8

The PCs connected to the secondary data port of the phones will belong to VLAN 200 (Data)
**Note**
The native management VLAN of the switch is 1, thus by changing all the ports there is a risk to not being able to access the switch for the programming. It is recommended to keep one of the ports (e.g. 2) unchanged in order to set up VLAN 200 later on from the Administration page as a native one, and to configure port 2 from another port of the switch (dedicated to the PC).

**Wildix Gigabit VLAN Switch - Scenario 2**

**Introduction**
The network configuration requires the separation of voice and data networks. The protocol IEEE 802.1Q makes it possible to use the same switch but maintain two layers separately for the packets transition. The configuration is completely untagged and dedicates each port to a different service.

**Network configuration**
- Voice VLAN (192.168.100.0/24)
- Data VLAN (192.168.200.0/24)

**Switch ports**
- 1-4: Voice network
- 5-8: Data network

**Switch configuration**
Go to the menu VLAN Setting and add VLAN 2 that will be used for the Data network. Set up VLAN 1 and 2 as shown on the screenshot: ports 1-4 should belong to VLAN 1, ports 5-8 - to VLAN 2. From now on, the switch is accessible only on the ports 1-4, as the management VLAN is 1, except for different settings.

<table>
<thead>
<tr>
<th>VLAN ID: 1</th>
<th>VLAN ID: 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Port</td>
<td>Member</td>
</tr>
<tr>
<td>Port 1</td>
<td>✓</td>
</tr>
<tr>
<td>Port 2</td>
<td>✓</td>
</tr>
<tr>
<td>Port 3</td>
<td>✓</td>
</tr>
<tr>
<td>Port 4</td>
<td>✓</td>
</tr>
</tbody>
</table>

Go to the menu “port config” and enable “VLAN Aware” option for all the ports. This parameter allows the separation of two zones. Make sure that PVID of each port is defined correctly.
Conclusion
After the configuration is over, the switch will allow the communication between the devices belonging to the same group without the need to set up any kind of VLAN configuration on devices.

<table>
<thead>
<tr>
<th>Port</th>
<th>VLAN aware Enabled</th>
<th>Ingress Filtering Enabled</th>
<th>Packet Type</th>
<th>Pvid</th>
</tr>
</thead>
<tbody>
<tr>
<td>Port 1</td>
<td>✔</td>
<td>☐</td>
<td>All Tagged Only</td>
<td>1</td>
</tr>
<tr>
<td>Port 2</td>
<td>✔</td>
<td>☐</td>
<td>All Tagged Only</td>
<td>1</td>
</tr>
<tr>
<td>Port 3</td>
<td>✔</td>
<td>☐</td>
<td>All Tagged Only</td>
<td>1</td>
</tr>
<tr>
<td>Port 4</td>
<td>✔</td>
<td>☐</td>
<td>All Tagged Only</td>
<td>1</td>
</tr>
<tr>
<td>Port 5</td>
<td>✔</td>
<td>☐</td>
<td>All Tagged Only</td>
<td>1</td>
</tr>
<tr>
<td>Port 6</td>
<td>✔</td>
<td>☐</td>
<td>All Tagged Only</td>
<td>2</td>
</tr>
<tr>
<td>Port 7</td>
<td>✔</td>
<td>☐</td>
<td>All Tagged Only</td>
<td>2</td>
</tr>
<tr>
<td>Port 8</td>
<td>✔</td>
<td>☐</td>
<td>All Tagged Only</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>Italy</td>
<td>France</td>
<td></td>
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<td>+39 0461.1715112</td>
<td>+33 176 747 980</td>
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<tr>
<td></td>
<td><a href="mailto:support@wildix.com">support@wildix.com</a></td>
<td><a href="mailto:support@wildix.fr">support@wildix.fr</a></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>