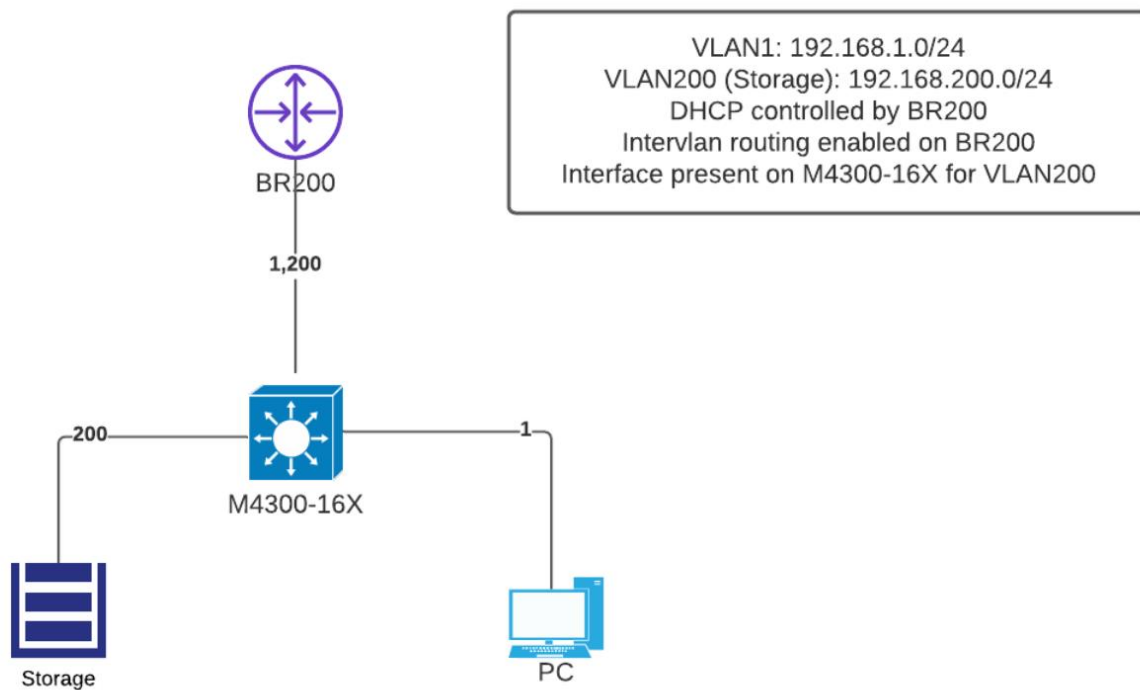


IP Helper / UDP relay, to forward WoL packets to different VLANs

The following document describes how to setup IP Helper / UDP relay, to forward WoL packets, to different VLANs.

Normally WoL, is send only within its own broadcast domain, meaning, it gets forwarded to the LAN it is residing in. But sometimes it can occur that a user, needs to forward WoL packets to different VLANs, and this document describes how to do this. Both CLI and GUI.

The settings, where tested on the following topology.



Specifying the changes through CLI

Enable UDP Relay / IP Helper global configuration and forward UDP packets to the broadcast address of VLAN200, on port #7

```
(M4300-16X) >enable
(M4300-16X) #configure
(M4300-16X) (Config)#ip helper enable
```

```
(M4300-16X) (Config)#ip helper-address 192.168.200.255 7
```

Port #7, is a placeholder, as this could be a different port, depending on the software used. For this example we used the software from the following provider: <https://wol.aquilatech.com/>

Enable Routing, specify an interface on VLAN200 and enable IP net directed broadcasts

```
(M4300-16X) #vlan database
```

```
(M4300-16X) (Vlan)#vlan routing 200
```

```
(M4300-16X) (Vlan)#exit
```

```
(M4300-16X) #configure
```

```
(M4300-16X) (Config)#interface vlan 200
```

```
(M4300-16X) (Interface vlan 200)#ip address 192.168.200.200 255.255.255.0
```

```
(M4300-16X) (Interface vlan 200)#ip netdirbcast
```

Once the above settings are entered, you can now, forward WoL packets, presuming port #7 is used and/or specified with the IP helper (UDP relay) address.

Specifying the changes through GUI

Enable UDP Relay global configuration and forward UDP packets to the broadcast address of VLAN200, on port #7

1. Go to System -> Services -> UDP relay
2. Set Admin Mode to Enable
3. Add UDP Relay Global Configuration, as followed:

M4300-16X ProSAFE 16-port 10GBASE-T with PoE/PoE+ support

System	Switching	Routing	QoS	Security	Monitoring	Maintenance	Help	Index	
Management	Device View	Services	Stacking	PoE	SNMP	LLDP	Link Dependency	ISDP	Timer Schedule

Services

- DHCP Server
- DHCP Relay
- DHCP L2 Relay
- UDP Relay
- UDP Relay Global Configuration
- UDP Relay Interface Configuration
- DHCPv6 Server
- DHCPv6 Relay

UDP Relay Configuration

Admin Mode Disable Enable

UDP Relay Global Configuration

<input type="checkbox"/>	Server Address	UDP Port	UDP Port Other Value	Hit Count
<input type="checkbox"/>	192.168.200.255	Other	7	0

Enable Routing, specify an interface on VLAN200 and enable IP net directed broadcasts

1. Go to Routing -> VLAN -> VLAN Routing Configuration, and select the VLAN ID, and add the required address (interface) for this switch
2. Go to Routing -> IP -> Advanced -> IP Interface Configuration, and select VLANS
3. In VLANS, select the VLAN that was added, in this example, it's VLAN200, and enable the setting Forward Net Directed Broadcasts

NETGEAR

M4300-16X ProSAFE 16-port 10GBASE-T with PoE/PoE+ support

System Switching **Routing** QoS Security Monitoring Maintenance Help Index

Routing Table IP IPv6 VLAN ARP RIP OSPF OSPFv3 Router Discovery VRRP Multicast IPv6 Multicast

IP IP Interface Configuration

1 VLANs All

Port	Description	VLAN ID	IP Address Configuration Method	IP Address	Subnet Mask	Routing Mode	Administrative Mode	Link Speed Data Rate	OSPF Admin Mode	Forward Net Directed Broadcasts	Active State
<input type="checkbox"/>	vlan 200	200	Manual	192.168.200.200	255.255.255.0	Enable	Enable	10 Mbps Half Duplex	Disable	Disable	Active
<input type="checkbox"/>	vlan 1	1	DHCP	192.168.1.2	255.255.255.0	Enable	Enable	10 Mbps Half Duplex	Disable	Enable	Active
<input checked="" type="checkbox"/>	vlan 200	200	Manual	192.168.200.200	255.255.255.0	Enable	Enable	10 Mbps Half Duplex	Disable	Disable	Active

1 VLANs All

Once the above settings are specified, the WoL packet, now traverses to different VLANs, allowing the user, to remotely power up devices on different VLANs.

If the user has specified this to a different port as port #7 used in this example, this needs to be adjusted, additionally, if customer has or need multiple VLANs which need to respond to WoL packets, the above steps would have to be applied to each VLAN that it corresponds to.

surroundings of the settings we've adjusted.

Setting	Description
Net Directed Broadcast	A directed broadcast is an IP broadcast to all devices within a single directly attached network or subnet. A net-directed broadcast goes to all devices on a given network, we're enabling this, as WoL sends an echo packet, to the broadcast interface of the (v)LAN, and as this is not traversing to other subnets this needs to be enabled.
IP Helper Address	An IP Helper Address sets up a relay. As the WoL packet, is normally not traversing outside of the (v)LAN you're residing in, a helper address needs to be specified, to remedy this situation. It gives the packet an option to be forwarded to another broadcast address, meaning, it then gets send to each device, inside the relay address, so in this example, it gets forwarded to the broadcast address of VLAN200, and in turn, that forwards it to the required clients.