

Creating Wake-On-LAN Services on Brocade FastIron Deployed Network

by [brcd-campus.expert](#) on 11-04-2011 05:10 PM (1,420 Views)

Introduction

Wake-on-LAN (WOL) has been used for years as a way for network administrators to turn on PCs remotely. It works by creating and issuing a specially formatted network packet (often referred to as a "magic" packet-typically generated via a software utility) containing a target PC's MAC address.

WOL is based on the principle that when the PC shuts down, the Network Interface Card (NIC) still receives power, and keeps listening on the network for the magic packet to arrive. This magic packet is mostly based on UDP. In this example, a utility application software will send a UDP packet on port (7) to trigger the wake-up of a remote machine.

Before You Begin

Before starting WOL in your network verify that you run the correct codes on your FastIron products. In this example, FastIron FCX is used, but this available on any of the Brocade's routers and switches.

Components Used

- FastIron FCX that runs FCXR07100a.bin (Router)
- FastIron FCX that runs FCXS07100a.bin (Switch)
- Freeware Wake-On-LAN Utility from SolarWinds

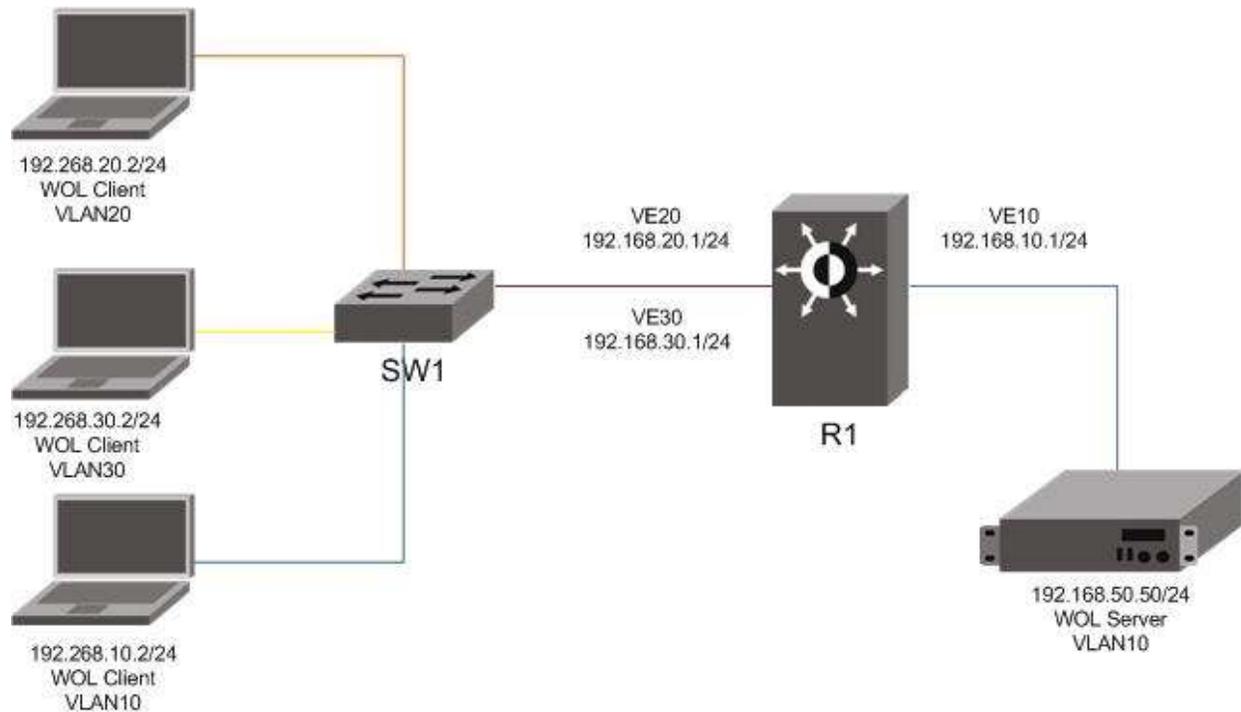
Topic of Discussion

Considerations

Before deploying WOL across several subnets, first ensure the target desktop can be woken remotely.

- Check the BIOS settings and ensure Wake-On-LAN is enabled
- Check the NIC Advanced Settings and ensure that Magic & Directed Packets are accepted
- Connect the WOL server and the desktop/laptop client to the same VLAN
- Invoke Wake Up PC from Software utility
- If the PC wakes up, you can go further and configure it across several subnets

Figure 1 Network Diagram



Configuration

The configuration below is from Figure 1 above.

- Router (R1) (inter-VLAN)

```
vlan 10 name server_vlan by port
  tagged ethe 1/1/10
  untagged ethe 1/1/1
  router-interface ve 10
!
vlan 20 name user_vlan20 by port
  tagged ethe 1/1/10
  router-interface ve 20
!
vlan 30 name user_vlan30 by port
  tagged ethe 1/1/10
  router-interface ve 30
!
ip forward-protocol udp echo
!
interface ve 10
  ip address 192.168.10.1 255.255.255.0
  ip helper-address 1 192.168.20.255
  ip helper-address 2 192.168.30.255
!
interface ve 20
```

```
ip address 192.168.20.1 255.255.255.0
!  
interface ve 30  
ip address 192.168.30.1 255.255.255.0
```

- Switch (SW1)

```
vlan 10 name server_vlan by port  
tagged ethe 1/1/10  
untagged ether 1/1/1  
!  
vlan 20 name user_vlan20 by port  
tagged ether 1/1/10  
untagged ethe 1/1/2  
!  
vlan 30 name user_vlan30 by port  
tagged ethe 1/1/10  
untagged ethe 1/1/3
```

Explanation

As soon as inter-VLAN routing is configured correctly, there are only 2 commands to add so that machines on different subnets/VLANs can be woken remotely by a WOL server. By default, Brocade FastIron Router does not forward requests for UDP applications. To achieve this, enable forwarding support for a specific port (forward-protocol). Identify the port used by the application. For example, this application uses UDP packets on port 7 (echo).

The second step is to configure a helper address on the VLAN of the WOL server to be able to join the subnet of the desired clients. Specify the broadcast address of each client network to make it work. This is the only way to send a packet to a machine that is asleep. Indeed, in this situation, the PC will not be able to answer to ARP requests, since it does not own its IP at this time.

- Specify the protocol (UDP) and port (7) to be forwarded

```
ip forward-protocol udp echo
```

- Enable forwarding of WOL packets to clients

```
ip helper-address 1 192.168.20.255
```