

# Re: Running out of IP addresses

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- *From:* "Bill Grant" <[not.available@online](mailto:not.available@online)>
  - *Date:* Thu, 29 Nov 2007 13:14:44 +1100
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You could do that. In fact it is pretty hard to find a hardware LAN router these days. You could use VLANs if your switch is capable of that.

Be careful what server you make a router. A router is obviously multihomed and there are known problems with multihomed DCs and mail servers (because of the name being associated with more than one IP address).

"Maurice Bishop" <[no.spam.here.please@xxxxxxxxxxxxxxxxxxxx](mailto:no.spam.here.please@xxxxxxxxxxxxxxxxxxxx)> wrote in message [news:13ks75dp6kpcu29@xxxxxxxxxxxxxxxxxxxx](mailto:news:13ks75dp6kpcu29@xxxxxxxxxxxxxxxxxxxx)

Terrific.

I understand. Given the growth of the company and the need to properly manage bandwidth, contention, performance, minimize broadcasts etc., I will:

Out of office hours:

- a. Remove the existing DHCP scope having first made a note of existing reservations.
- b. Create a new scope embracing the full subnet 1 thru 254 and assign the reservations.
- c. Stop and restart the DHCP service.

I think it worth planning a second subnet at this stage as I can see the existing scope running out, even with a 'full range' on the current subnet. I understand that I will need to introduce a DHCP server on the second subnet. Rather than introduce a hardware LAN router, could I insert a new LAN card into one of the existing Windows 2003 servers to service the second subnet (192.168.2.\*) and use the routing features therein?

I understand the need to implement a WINS server on each subnet. Will I need to make an entry in the WINS local database for all foreign (other subnet) machines/IP addresses?

TX in advance

Maurice

"Phillip Windell" <[philwindell@xxxxxxxxxxxx](mailto:philwindell@xxxxxxxxxxxx)> wrote in message [news:e6F3GjgMIHA.5400@xxxxxxxxxxxxxxxxxxxx](mailto:news:e6F3GjgMIHA.5400@xxxxxxxxxxxxxxxxxxxx)

## Re: Running out of IP addresses

"Maurice Bishop" <no.spam.here.please@xxxxxxxxxxxxxxxxxxxx> wrote in message [news:13krkn1hts7jdf5@xxxxxxxxxxxxxxxxxxxxxxxx](mailto:news:13krkn1hts7jdf5@xxxxxxxxxxxxxxxxxxxxxxxx)

I am running out of useable IP addresses on my subnet.

I have a network of 5 servers running Windows 2003 server on the same domain, one of which runs DHCP for the whole network on one subnet. There are approximately 110 client computers. In total, with workstations, servers, routers, print servers, multi function devices etc, there are about 220 IP addresses used on the LAN.

First. Scopes should always include the entire address range (\*.1-\*.254) then control it with Exclusions.

The subnet has 254 possible addresses,...there is no way you would run out. You still have 35 left over even if every single device was powered up and running all at the same time.

I cannot extend the present scope to include IP addresses above 130 as I have static address assignments above 130 that cannot be moved without a considerable amount of hassle.

Go around them. If they are sequential them mark them out with an Exclusion. You probably have a chunk of addresses above them that aren't used. They can be added to the dynamic group of addresses by simply not including them in an Exclusion. In other words when you exclude 130 an up you don't have to go all the way to 254. I actually have two distinct Exclusion ranges in mine.

Can I change the subnet to 255.255.0.0 and start to use a second scope of 192.168.2.10 thru 192.168.2.254 ?

No.

1. It would go in the same scope,..not a new scope. But since you cannot edit a Scope in that way you would have to delete the existing one and create an entirely new one for the whole thing. That could be a lot of work if there are a lot of Scope Options or Reservations,...and there would be no DHCP available during the period that this was being performed.

2. Ethernet is not supposed to have subnets bigger than 254 hosts. Efficiency starts to drop off due to broadcasts at around 250 to 300 hosts depending on the type of traffic already on the wire.

"But a lot of people are doing it!","...yes and a lot of networks perform like

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crap when they are hit with a "real" load and they will blame everything except the real cause. Some are just lucky because they don't generate a lot of traffic to start with, so the problem is "unnoticed". Some have big subnets but simply have not actually filled them up with \*too many\* host,...at least not yet.

Faster systems (like gigabit) just aren't noticable to the human perception that early on because most people would never notice a gigbit network that actually only performs like a 100 or 10 mbps system until something "stressed it" or it was measured with equipment. But if you want a gigabit system to actually run at gigabit speed,..the same rules apply.

To go more than 254 hosts,...create a whole new subnet and put a LAN Router between them. You can build it first and get it working with no machines even on it. Then gradually over time start moving some things over to it as it becomes convenient. If you create a new 254 host segment then you will have a 508 host capacity and won't run into trouble with broadcast and will be able to grow and double in size without any topology changes at all. Don't forget to install WINS on at least one server and use it. Some things still require netbios resolution and WINS is required for it to function across routers.

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The views expressed, are my own and not those of my employer, or Microsoft,  
or anyone else associated with me, including my cats.

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