Re: Need more IP addresses

Source:
http://www.tech−archive.net/Archive/Windows/microsoft.public.windows.server.networking/2007−06/msg00137.html

- *From*: Philip Herlihy <thiswillbounceback@xxxxxxx>
- *Date*: Fri, 15 Jun 2007 10:59:18 +0100

Steve Gr wrote:

> "Philip Herlihy" <thiswillbounceback@xxxxxxx> wrote in message
> news:f4rbus$st3$1$8302bc10@xxxxxxxxxxxxxxxxxxx
>
> > Steve Gr wrote:
> >
> > > Hi,
> > >
> > > I have a single subnet 192.168.20.0, network mask
> > > 255.255.255.0
> > > There are about 200 IP addresses in use, and I have a lot of
> > > new equipment coming that needs IP addresses.
> > > My network understanding is a bit sketchy. I know that I can
> > > achieve more addresses by putting part of the network onto a
> > > different IP range and routing between them. I've done that
> > > before, but that was for a different location within the
> > > company and was achieved using a VPN router that also
> > > acted as a DHCP server.
> > > Is the segmenting best done at a convenient physical part of
> > > the network (ie put all the devices attached to one cabinet
> > > onto a different IP range)? In which case how do the devices
> > > at that part of the building get a different IP from the DHCP
> > > server?
> > >
> > > Thanks,
> > > S
> >
> > If it really is one subnet, I think you merely need to use a different subnet
> > mask to define a larger range. Have a play with this:
> > http://www.subnet−calculator.com/
> >
> > I'd think it would be useful to use addresses which make it clear which
> > physical part of the network they inhabit, so you could have another floor on
> > 192.168.21.0 and bodge the subnet mask (everywhere) so this range was seen
> > as the same subnet. You'll need a DHCP server for each distinct subnet −
> > most routers can provide this facility.

> See also http://www.faqs.org/rfcs/rfc3330.html
> .. and note the "private use networks" (by convention, not passed through routers) in section 3 "Summary Table". By the way "/8" means a subnet mask of 8 bits, ie 255.0.0.0, "/16" means "255.255.0.0" − you get the idea.
>
> Disclaimer: there are experts here and I am NOT one of them!
>
> Phil, London

> Phil,
>
> Thanks for your input. I read the links.
> I understand what you're saying, and I'm sure it will do what I want. It won't take much time and effort to implement either, which is nice.
> But I can't help thinking that it's maybe more of a quick fix than a proper fix? I've just got the thought in my head that the network would be more efficient if it was segmented into different subnets with routing between. Am I right in this? Would it be more efficient and quicker?
> I'm after a quick fix, because the new devices will arrive in a couple of weeks, but I will have to live with this network, so I want to get it right.
>
> Best Regards,
> Steve

My work tends to be with small networks which have only one subnet (and networking is only a small part of what I do) so these are questions for the experts around here.

Certainly, there will be situations where you'd want to isolate and link subnets to drive down the background "chatter" on each subnet − you might not want every PC to be aware of a lengthy conversation between neighbours elsewhere in the building, for example − but I'm not qualified to judge where to draw the line. In practice, physical considerations may determine how you set it up if there are no security issues to consider first. Routers are fairly cheap (consider having a spare on hand) and are fairly easy to set up these days. A classic arrangement would be to have a backbone network perhaps with a few major machines directly connected, and routers (eg one per floor) defining subnets as needed. That scenario assumes that each floor would have significant traffic within it (eg to fileserver or printer); if all the PCs were running Terminal Services from a single backbone server then it wouldn't give any benefit to have the subnets. Essentially, you are using routers to hide network traffic from machines that don't need to be bothered with it. So, if you post fuller details of what you have planned, I'm sure some more experienced person here will be able to give you a clear recommendation.

Best wishes,

Phil
.