

Re: subnetting confusion

Source:

<http://www.tech-archive.net/Archive/Windows/microsoft.public.windows.server.networking/2005-12/msg00306.html>

- *From:* "J.Couch via WinServerKB.com" <u14461@uwe>
 - *Date:* Thu, 15 Dec 2005 02:04:49 GMT
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Very well put Frank... I think I need a little practice giving written advice.
... but I like what you put down here and hope that there is some stuff here
that helps Aaron...

Frankster wrote:

>> What I want to do is get a better understanding of when and why changing a
>> subnet mask is or is not necessary.

>

>You are correct in your assumption that you can carve out a subnet from you
>existing network (alienate) by simply changing the mask. You can also do it
>by changing the IP to be outside of the same mask. But, you do have to
>understand how this works.

>

>A mask of 255.255.255.0 means that to be on the same network (subnet), the
>first three octets have to be the same. The fourth octet can be anything, up
>to 254. If you change a machine's address to be
>same.same.different.different, he will be off your network (on it's own
>subnet). It will not be able to communicate with the original network unless
>you place a router between them and manually forward the networks back and
>forth.

>

>You could also change the mask. For this, I need an IP calculator (crutch)
>because I am not that good at it. However, I will use my own scenario as an
>example because know it is right.

>

>I have purchased a set of 8 static IPs. My ISP gave me the IPs, told me
>which one to assign to my router, which one was used to define the network,
>which one to assign to my firewall (using 3 total at this point). That
>leaves me 5 I can use internally for the machines where I want to have
>public IPs (not often, but it happens). So... Here is what I use:
>IPs 61.50.80.45 to 61.50.80.52. You'll notice that is 8 total IPs (I made
>them up for this post...hehe...). Anyway, my mask is 255.255.255.248
>(really mine). The ending 248 limits my (sub)network to only those 8
>addresses. If I configured an address out of that range he would be off the
>original network. In this case, you are subnetting using a mask.

>

>The actual IP and the mask have both got to be taken into consideration to
>determine if you are on the same subnet or not. You can't tell with just

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>one.
>
>> I am looking possibly at a better way to organize my network
>
>Use AD and OUs in Windows. Don't bother with subnets unless you can absorb
>the costs of a router between each subnet.
>
>> Maybe my confusion lays in the fact that there are always several ways to
>> accomplish the same thing.
>
>Yes, probably.
>
>> just trying to get a grasp on the big picture really.
>
>Suggest a good read from the bookstore or online about TCP/IP. It's all
>based on binary math. Kinda tedious but helps in the long run.
>
>-Frank

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Message posted via WinServerKB.com

<http://www.winserverkb.com/Uwe/Forums.aspx/windows-server-networking/200512/1>

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• *Follow-Ups:*

- ◆ [*Re: subnetting confusion*](#)
 ◇ *From:* Frankster

• *References:*

- ◆ [*subnetting confusion*](#)
 ◇ *From:* Aaron Neunz
- ◆ [*Re: subnetting confusion*](#)
 ◇ *From:* Frankster
- ◆ [*Re: subnetting confusion*](#)
 ◇ *From:* Aaron Neunz
- ◆ [*Re: subnetting confusion*](#)
 ◇ *From:* Frankster

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