

Re: Joining Two Large Network

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- *From:* Bowman.NicholasW@xxxxxxxxxx
 - *Date:* Mon, 04 Jun 2007 16:30:57 -0000
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On Jun 1, 12:58 am, "Phillip Windell" <philwind...@xxxxxxxxxxxx> wrote:

My reply is going to be a little different.

You don't need VLANs necessarily, but they can be used. Just so you understand that they aren't a "requirement",...only an unrelated option. You can not use a Switch,..it requires a Router,...this can be a Layer3 Switch which is really nothing more than a Layer3 Router and a Layer2 Switch built into the same piece of hardware. The "router interfaces" of a Layer3 Switch are created with VLANs internally which "group" selected Layer2 ports on the Switch into a single Layer3 Router Interface,..but the VLANs don't have to extend out beyond that device unless there is a real reason to do so.

The rest is fairly simple although a lot of people may not notice it (no offense to anyone).

Since each "side" wants to keep their own internet connection that creates some issues. DHCP is no issue at all,..but each side does have to use a different subnet, and I am operating on the assumption that this is already the case. You will need each side to keep using their Internet Device as their Default Gateway as they probably already are doing. Then each Internet Device will have to have a static route configured to tell it that the "path" to the opposite subnet is the LAN Router that sits in the logical center. Also, it is **very** important that both Internet Devices be configured with both subnets as the "internal" private network, even if they don't provide any service to the opposite subnet. If they can not do that and also accept a static route, then they will have to be replaced.

All done, that's pretty much it.

You cannot make the LAN Router everyone's Default Gateway because that will mean the LAN Router will then have to use one of the Internet Devices as its Default Gateway, and you can only choose one, which causes everyone to use the same internet connection,..which isn't what they want. However some Routers may be able to choose from more than one Gateway depending on the location of the source of the traffic (called Source Routing), but off the top of my head I don't know how that would be done.

If you stick with what I described, it will be simple to deal with.

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Phillip Windellwww.wandtv.com

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

<Bowman.Nichol...@xxxxxxxx> wrote in message

news:1180644808.737504.67890@xx

Joining Two Large Network Research

I have a church I'm trying to help out with a network topology. They have a school and a rectory they want to connect via fiber.

However, the school wants to continue with their outbound internet connection and DHCP server. The rectory also wants to continue with their outbound internet connection and DHCP server.

Consolidation is NOT a possibility.

My thoughts are to use existing Dell PowerConnect 5324 switches. It has an IOS–esque interface and has a lot of power that I've never explored.

My plan would be either:

Plan A:
Give the switch two vlans with an IP address appropriate for each side. Add a route from the existing routers on each side to the switch IP.

In my head, this seems like it might theoretically work but there is the question: can the Dell 5324 route packets between vlans?

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Plan B:

Give the switch two vlans with two ports in common. On the port in common, block broadcast packets to block the DHCP.

Before someone suggest Plan C, the physical wires are spread out accross a multi-acre facility. Handling access via wire control to a specific port is simply impossible. Switching to static IPs and removing DHCP is also simply not maintainable/realistic.

Anyway, after that it gets worse because they want the lans tied together but only for a few machines to cross over between them. I've researched that part and I can do MAC address filtering and they understand that MAC's can be spoofed.

Any thoughts?

Thanks ahead of time.

Thanks guys for all your help and advice.

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