

RE: DHCP Question

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<http://www.tech-archive.net/Archive/Windows/microsoft.public.windows.server.networking/2006-02/msg00041.html>

- *From:* "alexk" <alexk@xxxxxxxxxxxxxxxxxxxxxxxxxxxxx>
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KJK,

Yes you are right– DHCP is a broadcast based protocol at layer 2 and layer 3 of the OSI model. In the first DHCP packet (Discover) the layer 4 information is addressed using an UDP packet with a destination port 67 (DHCP). The source port of the packet is UDP 68.

My question to you is this: Are both DHCP servers located in the same VLAN? (My guess is yes they are)– then this was probably done for a fault tolerant situation. If this is the case, then there is no really easy way to guarantee which DHCP server will service the client first. (Realistically– the first DHCP offer packet received from the client will determine which DHCP server is selected) If one of the DHCP server is performing gratuitous ARPs before sending the offer, or if it is just plain older slower, then this may account for the one DHCP server in your network having all of its addresses leased. To stop this hassle and provide fault tolerance still– I assume you have a second VLAN (there would be no need for one without the second).

Place one of the DHCP servers in each of the VLANs. On each server configure a scope that includes the local network ID the DHCP server will be servicing. When a discover packet comes in– the GIADDR field (one of the DHCP Discover fields) is set to 0.0.0.0 (without the relay agent). When this packet comes in, the DHCP server will examine the field and look at the IP address of the adapter that the Discover packet come in from. It will select the scope network ID – different than the range!!!! (if one exists) that includes the IP address of this adapter. Make sure you have a scope that includes the IP address of the adapter and list 80% of the network ID as the range. Create a second scope that has a network ID for the scope the other VLAN. When your Relay Agent forwards the packet to the DHCP server – the GIADDR field will be update according to the IP address of the Relay Agent. This address must be in then network ID of the second scope. Configure 20% or less of the DHCP range for the other VLAN. Dont forget to install the Relay Agent in each VLAN with the heartbeat set to four pointing to the DHCP server in the other VLAN.

Dont forget RANGES are not the Network IDs i am referring to!!! if you need more info respond or check out this link: