

RE: How does Windows XP choose the most optimal domain controller?

Source:

<http://www.tech-archive.net/Archive/WinXP/microsoft.public.windowsxp.general/2008-03/msg03240.html>

- *From:* John Hossbach <JohnHossbach@xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx>
 - *Date:* Fri, 14 Mar 2008 19:18:00 -0700
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This is exactly what I was looking for. Thank you!

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John

"George Yin(MSFT)" wrote:

Hello,

Here is an article giving the detailed explanation of this. Please read the following article in detail, and I am sure you will find the answers.

Finding a Domain Controller in the Closest Site:

http://www.microsoft.com/technet/prodtechnol/windows2000serv/reskit/distrib/dsbc_nar_jevl.msp?mfr=true

Here is a sample just for your reference:

A client computer stores its own site information in the registry, but the computer is not necessarily located physically in the site associated with its IP address. For example, a portable computer that was moved to a new location contacts a domain controller in its home site, which is not the site to which the computer is currently connected. In this situation, the domain controller looks up the client site on the basis of the client IP address by comparing the address to the sites that are identified in Active Directory, and returns the name of the site that is closest to the client. The client then updates the information in the registry.

The following is quoted from the above Technet link which describes the IP addresses to site name mapping clearly:

"When a client that is searching for a domain controller receives the list of domain controller IP addresses from DNS, the client begins querying the domain controllers in turn to find out which domain controller is available and appropriate. Active Directory intercepts the query, which contains the IP address of the client, and passes it to Net Logon on the domain

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controller. Net Logon looks up the client IP address in its subnet-to-site mapping table by finding the subnet object that most closely matches the client IP address and then returns the following information:

1. The name of the site in which the client is located, or the site that most closely matches the client IP address.
2. The name of the site in which the current domain controller is located.
3. A bit that indicates whether the found domain controller is located (bit is set) or not located (bit is not set) in the site closest to the client.

The domain controller returns the information to the client. The response also contains various other pieces of information that describe the domain controller. The client inspects the information to determine whether to try to find a better domain controller. The decision is made as follows:

1. If the returned domain controller is in the closest site (the returned bit is set), the client uses this domain controller.
2. If the client has already tried to find a domain controller in the site in which the domain controller claims the client is located, the client uses this domain controller.
3. If the domain controller is not in the closest site, the client updates its site information and sends a new DNS query to find a new domain controller in the site. If the second query is successful, the new domain controller is used. If the second query fails, the original domain controller is used."

I hope this helps.

Sincerely,
George Yin
Microsoft Online Support
Microsoft Global Technical Support Center

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