

Re: Change IP related values due to WAN design change

Source:

<http://www.tech-archive.net/Archive/Windows/microsoft.public.windows.server.scripting/2005-04/msg00042.html>

- *From:* "Jim Vierra" <jvierra@xxxxxxx>
 - *Date:* Fri, 1 Apr 2005 02:14:33 -0500
-

New code. Unknown network, Thousands of users at stake.

Too much impact. If the question is coming from someone with little scripting knowledge it's a formula for disaster.

The only good answer is the right answer which is to use DHCP.

I have fought with many companies and site admins. Eventually I win and they convert to DHCP. Now life on the Intranets is much more predictable and manageable.

The of rough and ready "I know IP" ideology dies hard but, come on, this is the modern world. For the cost of testing a dangerous script in a big network it's worth turning on DHCP and doing the conversions now. The subnets are already defined. Now you only need a script that changes the DHCP setting and reboots the machine.

DO it in segments with the script and watch the outcome.

--

Jim Vierra

<http://msdn.microsoft.com/theshow/Episode048/default.asp>

"Gerry Hickman" <gerry666uk@xxxxxxxxxxxx> wrote in message

<news:%233wyOpkNFHA.1176@xxxxxxxxxxxxxxxxxxxxxxxxxxxx>

> Hi Dick,

>

>> Good suggestion Jim. Won't help me right now.

>

> It's no good requesting such a detailed script when you say it has to be done by 5pm yesterday (but see below anyway).

>

> The answer is that "yes" you can change IP addresses on dozens of Windows

> 2000 computers using a script. I didn't read the rest of your post in much

> detail. Do you really expect someone to write a script for you that does

> things like "e-mail you if there's a problem"? I don't think so.

>

> Assuming you're the domain admin, and don't have any silly firewalls or

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> XP-SP2 installed, you can use the WMI Win32_NetworkAdapterConfiguration
> class. It has methods for getting and setting items such as the gateway
> and subnet mask. I've used this in real life on a big network. Bear in
> mind your script will lose the connection as soon as the subnet changes,
> so program carefully to allow for this. I don't know about "refreshing
> leases" – I've never done this.
>
> I've posted some code blocks below, but you'll have to co-ordinate these
> into a meaningful fully working script yourself. I assume you know how to
> recurse your text file into an array. You could adjust the _trace()
> routine to provide logging to file if you want, but when I ran it in real
> life, I just ran under CScript and noted any errors.
>
> * BEWARE OF LINE WRAP *
>
> ----- start ----- start ----- start -----
>
> // NetAdapters2.js
>
> // List of Computers to work with
> // – populate from text file in real life
> var arrCmpNames = new Array();
> arrCmpNames.push("Comp1");
> arrCmpNames.push("Comp2");
>
> // New Settings – populate the NetworkSettings object
> var newSettings = new NetworkSettings();
> newSettings.DefaultIPGateway.push("122.82.39.242");
> newSettings.IPSubnet.push("255.255.248.0");
> newSettings.DNSServerSearchOrder.push("122.82.37.145");
> newSettings.DNSServerSearchOrder.push("122.82.37.146");
> newSettings.WINSPrimaryServer = "122.82.37.145";
> newSettings.WINSSecondaryServer = "122.82.37.146";
> newSettings.DNSDomain = "";
> newSettings.WINSEnableLMHostsLookup = false;
> newSettings.FullDNSRegistrationEnabled = true;
>
> // Keep this global for efficiency – used for SAFEARRAY conversions
> var oDict = new ActiveXObject("Scripting.Dictionary");
>
> // Do the work – Enum list of computers
> var oLoc = new ActiveXObject("WbemScripting.SWbemLocator");
> for(var i in arrCmpNames) {
> var strThisCmp = arrCmpNames[i];
> _trace("\nTrying to get Adapter for " + strThisCmp);
> var oSvc = getService(strThisCmp);
> if (!oSvc) {
> _trace("Failed to get service for " + strThisCmp);
> continue;
> }
>
>
```

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```
> // We should have a reliable connection at this point so get the adapter
> var oAdapter = getAdapter(oSvc);
> if (!oAdapter) {
>   _trace("Failed to get adapter for " + strThisCmp);
>   continue;
> }
>
> _trace("Got Adapter " + oAdapter.Caption);
>
> // Set to new values
> if(!setSettings(oAdapter, newSettings)) {
>   _trace("*** Could not change settings ***");
> }
> }
> oDict = null;
> oSvc = null;
> oLoc = null;
> _trace("Done");
>
> // ----- Functions -----
>
> // Network settings object (struct)
> function NetworkSettings() {
>   this.IPAddress = new Array();
>   this.IPSubnet = new Array();
>   this.DefaultIPGateway = new Array();
>   this.DNSServerSearchOrder = new Array();
>   this.WINSPrimaryServer = new String();
>   this.WINSSecondaryServer = new String();
>   this.DNSDomain = new String();
>   this.WINSEnableLMHostsLookup = new Number();
>   this.FullDNSRegistrationEnabled = new Number();
> }
>
> function getService(strCmp) {
>   // Try to connect to server
>   // Accepts a string computer name
>   // Returns a Wbem service object or false on fail;
>   var err;
>
>   try
>   {
>     var oSvc = oLoc.ConnectServer(strCmp, "root\\cimv2");
>   }
>   catch(err)
>   {
>     _trace(_formatError(err) + " While connecting to " + strCmp);
>     return false;
>   }
>   return oSvc;
> }
```

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```
>
> function getAdapter(oService) {
> // Accepts a computer
> // Returns first IP enabled Adapter or false on fail
>
> var strWQL = "Select * from Win32_NetworkAdapterConfiguration where
> IPEnabled=TRUE"
> var wbemObjectSet = oService.ExecQuery(strWQL);
> if (wbemObjectSet.Count != 1) {
> _trace("Number of IP Enabled Adapters = " + wbemObjectSet.Count + "
> instead of 1");
> return false;
> }
>
> // Enum the Adapters – can only be one!
> var e = new Enumerator(wbemObjectSet);
> for(;!e.atEnd();e.moveNext()) {
> var oThisAdapter = e.item();
> // We only want the first adapter
> return(oThisAdapter);
> }
> }
>
> function setSettings(oAdapter2, oSettings) {
> // Set the Adapter Settings
> // Accepts an Adapter object and a NetworkSettings object
> // Returns true or false
> var result;
> var err;
> var vbAryIP = oAdapter2.IPAddress;
>
> try {
> // Set up Gateways
> result = oAdapter2.SetGateways(vbConv(oSettings.DefaultIPGateway));
> _trace("Result of setting gateways " + result);
>
> // Set up WINS
> result = oAdapter2.SetWINSServer(oSettings.WINSPrimaryServer,
> oSettings.WINSSecondaryServer);
> _trace("Result of setting WINS " + result);
>
> // Set up DNS
> result =
> oAdapter2.SetDNSServerSearchOrder(vbConv(oSettings.DNSServerSearchOrder));
> _trace("Result of setting DNS " + result);
>
> // * Domain specific *
> // – if it's not blank, make it blank
> if(oAdapter2.DNSDomain) {
> result = oAdapter2.SetDNSDomain(oSettings.DNSDomain);
> _trace("Result of setting non-null DNSDomain " + result);
```

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```
> }
>
> } catch(err) {
> _trace(_formatError(err));
> return false;
> }
>
> try {
> result = oAdapter2.EnableStatic(vbAryIP, vbConv(oSettings.IPSubnet));
> _trace("Result of setting EnableStatic " + result);
> } catch(err) {
> var facility = err.number >> 16 & 0x1FFF;
> var errno = err.number & 0x1FFF;
> _trace("facility is " + facility);
> _trace("errno is " + errno);
> if(facility == 7 && errno == 1726) {
> _trace("RPC Failed setting Subnet – Assuming Success!");
> } else {
> _trace(_formatError(err) + " Setting Subnet");
> return false;
> }
> }
>
> return true;
> }
>
> function vbConv(arrJS) {
> // Use Dictionary object to convert JScript Array to SAFEARRAY
> // oDict is a global var
>
> oDict.RemoveAll();
> for (var i in arrJS) {
> oDict.Add(i, arrJS[i]);
> }
> return oDict.Items();
> }
>
> function _formatError(objError) {
> // Format a string containing error info
> if (objError.number > 0) {
> var errno = objError.number.toString(16).toUpperCase();
> } else {
> var errno = (objError.number + 0x100000000).toString(16).toUpperCase();
> }
> var strDesc = objError.description;
> var strResult = "Error " + errno + ": " + strDesc;
> return strResult;
> }
>
> function _trace(strMsg) {
> WScript.Echo(strMsg);
```

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> }
>
>
> --
> Gerry Hickman (London UK)

• **Follow-Ups:**

- ◆ **Re: Change IP related values due to WAN design change**
◇ From: Gerry Hickman

• **References:**

- ◆ **Change IP related values due to WAN design change**
◇ From: Dick Wade
- ◆ **Re: Change IP related values due to WAN design change**
◇ From: Jim Vierra
- ◆ **Re: Change IP related values due to WAN design change**
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◇ From: Gerry Hickman

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