# Implementing and using the NetSupport DNA Gateway

Summary

The NetSupport DNA Gateway provides a stable and secure method to allow DNA Agents on remote networks, or as remote devices, to send information to the DNA Server via the internet. Multiple remote locations can communicate data back to a central DNA Server with the use of the included Remote and Local Gateway components.

Any DNA Agents that are connecting to the DNA Server via the DNA Gateway can be identified as they will have an additional cloud icon displayed when viewed in the DNA Console hierarchy.
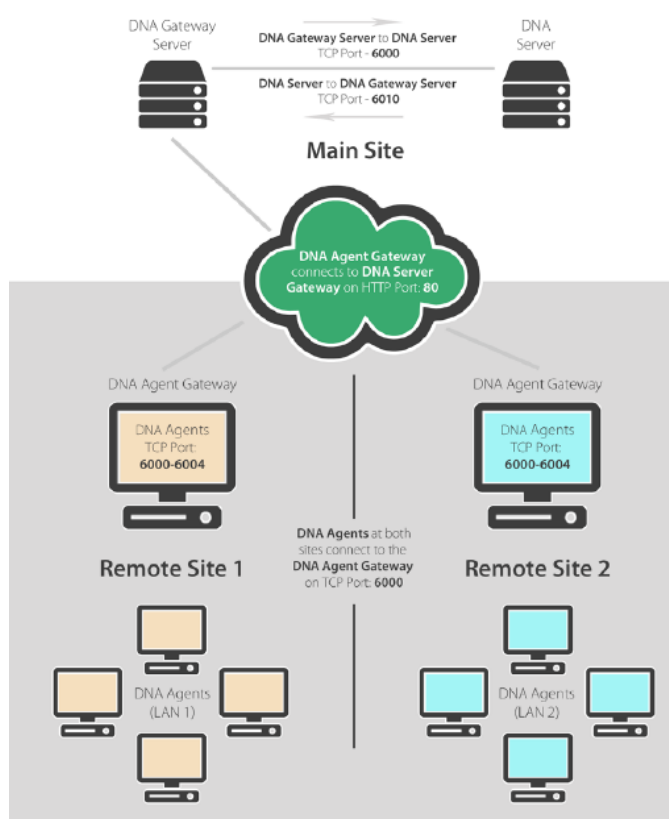
What are the NetSupport DNA Gateway components?

There are two components of the DNA Gateway that are required to be installed to allow for remote DNA Agent machines to send information to the DNA Server over the internet.

Local (Server) Gateway

The Server Gateway communicates directly with the DNA Server using a TCP connection. The Server Gateway is required to be installed on a dedicated machine, as it cannot be installed in conjunction with any other NetSupport DNA software components.

Note: *If a DNA Server Gateway is installed on the same machine as a NetSupport Connectivity Server (NCS), remote control functionality over the DNA Gateway will not be available. (Applies to Education installations only).*

Remote (Agent) Gateway

The Agent Gateway acts as a proxy server for the remote DNA Agents, allowing them to communicate with the Server Gateway. The Agent Gateway can be installed along with the DNA Agent software component; however, it cannot be installed with any other DNA software component.

The remote DNA Agent machines connect to the Agent Gateway installed on their local network. The Agent Gateway then connects to the Server Gateway across the internet on HTTP port 80 (by default), using the Server Gateways public IP address or DNS name.

The Server Gateway then connects to the DNA Server to transfer the remote DNA Agents information to the DNA database.

This allows the DNA Agents that connect to the Agent Gateway to send information via an internet connection to the DNA Server.

Notes:
- *There can be multiple Agent Gateways installed at remote sites (or on roaming devices i.e. laptops or Windows tablets), but only one Server Gateway can accept the connection from the Agent Gateways to transfer the DNA Agent information to the DNA Server.*
- *The Server Gateway machine will need to be configured with a public IP address or DNS name that can be connected to over the internet.*

Scenario 1 – Remote sites
The DNA Gateway will allow you to collect information from multiple DNA Agent machines that are on a remote site.

In this scenario it is required that only one Agent Gateway needs to be installed onto a designated machine on the remote network, and then each DNA Agent machine on that network can be configured to connect directly to the Agent Gateway.

It is recommended that the Agent Gateway be installed on a machine on the remote network that has a static IP address and is always powered on (i.e. a server) so as to prevent any issues with the DNA Agent machines from sending their information to the central DNA Server.

Scenario 2 – Roaming devices
When dealing with roaming devices (i.e. laptops or Windows tablets) it is possible to install both the Agent Gateway and DNA Agent software components on the device.

The DNA Agent on the device will be configured to connect to its own machine name, or loopback IP address (127.0.0.1) and the Agent Gateway will be configured to connect to the Server Gateway using a public IP address or DNS name that can resolve to the public IP address of the Server Gateway machine.

When the device has an internet connection the DNA Agent will send all of the information that it has collected since the last connection via the Server Gateway to the DNA Server.

Installing the NetSupport DNA Gateway components

Before you begin, decide which machine is going to be the Server Gateway machine.

Note: *The Server Gateway machine cannot have any other DNA software components installed on it.*

Local installation method using the NetSupport DNA Setup.exe file

DNA Server machine

1. Run the DNADBWizard.exe from the Server installation folder.
2. Select **Gateway Settings** and click **Next**.
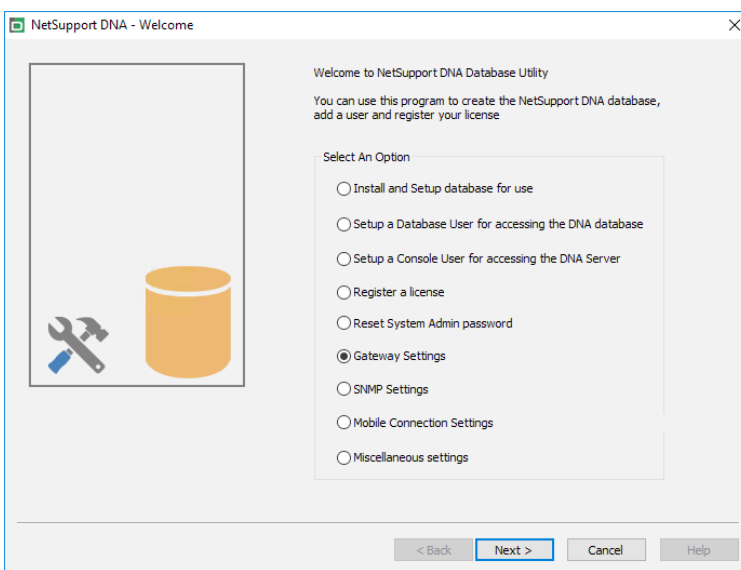
3. In the Server Gateway Address field enter the IP address (or the DNS name) of the Server Gateway machine. (It does not matter if you have not yet installed the Server Gateway software on this machine yet.)
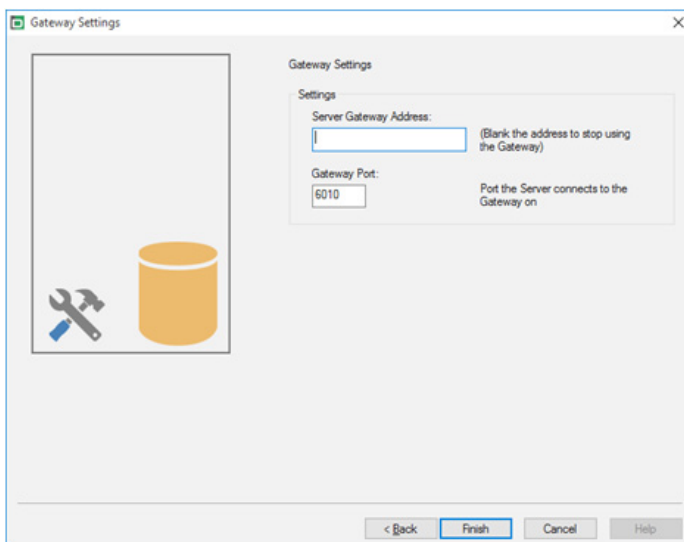
4. Click **Finish** and then **OK**.
5. Restart the DNA Server service.

Server Gateway Machine

1. Run the NetSupport DNA Setup.exe installation file.

2. Click **Next**, then click to accept the Licence Agreement.

3. Select **Custom install** and click **Next**.

4. On the Custom Setup screen, click each option and select **This feature will not be available**.

5. Click **Local Gateway (Server)** and select **This feature, and all subfeatures, will be installed on local hard drive**.

6. Click **Next**.

7. In the displayed field enter the IP address (or the DNS name) of your DNA Server machine and click **Next**.

8. Click **Install**.

9. Once the installation has completed, click **Finish**.

Agent Gateway Machine

1. Run the NetSupport DNA Setup.exe installation file.

2. Click **Next**, then click to accept the Licence Agreement.

3. Select **Custom Install** and click **Next**.

4. On the Custom Setup screen, click each option and select **This feature will not be available**.

5. Click **Remote Gateway (Agent)** and select **This feature, and all subfeatures, will be installed on local hard drive**. (If you wish, you can also install a DNA Agent on the Agent Gateway machine by selecting the **Agent** option.)

6. Click **Next**.

7. In the displayed field enter the public IP address (or the DNS name) of your Server Gateway machine and click **Next**.

8. Click **Install**.

9. Once the installation has completed, click **Finish**.

10. If you have also installed the Agent component, you will be prompted to restart the machine.

Creating an installation and configuration package of the DNA Agent and Agent Gateway for remote devices

If you wish to create a DNA Agent and Agent Gateway installation folder that can be used to install the required software components onto the remote devices, you will need to obtain the Client Setup.exe file, the NetSupport DNA Agent Gateway.msi file and the DNA.ini file.

The Client Setup.exe file for the DNA Agent installation can be found in the following directory on a DNA Console machine:

64bit C:\Program Files (x86)\NetSupport\NetSupport DNA\Console\ClientDeploy
32bit C:\Program Files\NetSupport\NetSupport DNA\Console\ClientDeploy

The required NetSupport DNA Agent Gateway.msi file for the Agent Gateway installation can be downloaded from our main download page: *download.netsupportsoftware.com/download/*

The DNA.ini file can be found in the following directory on a DNA Console machine:

64bit C:\Program Files (x86)\NetSupport\NetSupport DNA\Console
32bit C:\Program Files\NetSupport\NetSupport DNA\Console\ClientDeploy

In order to silently install and configure the DNA Agent and Agent Gateway components, you will need to manually edit the DNA.ini file.

An example of how the contents of the DNA.ini file should look can be found below:

Contents of DNA.ini
===============================
[All]
ServerAddress=xxx.xxx.xxx.xxx
InstallDir=

[Client]
EnableLSP=1
NOARP=0

[ClientGateway]
ServerGatewayAddress=xxx.xxx.xxx.xxx
===============================
If you do not see the [ClientGateway] section, you can manually add this into the DNA.ini file as shown above.

Definitions of the DNA.ini file entries

Server Address: The machine name or the 127.0.0.1 local loopback IP address of the device.

InstallDir: The installation directory for the DNA software. Leave blank to use the default Windows program installation folder (i.e. C:\Program Files or C:\Program Files (x86)).

EnableLSP: The component that allows the DNA software to block internet access or restrict the user to only access specified websites:

EnableLSP=1 to install the web restriction component, EnableLSP=0 to not install the component

NOARP: The setting to show the DNA Agent software in Programs and Features. NOARP=1 to hide the DNA Agent installation from the Programs and Features list, NOARP=0 to show the DNA Agent installation in Programs and Features.

ServerGatewayAddress: The public IP address or DNS name of the Server Gateway. The commands to run on the device to install the DNA components silently are as follows:
"Client Setup.exe" /S /v/qn
msiexec.exe /qb /i "NetSupport DNA Client Gateway.msi"

Configuring the NetSupport DNA Gateway components

The Server Gateway and Agent Gateway installations can be locally configured using the configuration utilities that are installed with the software components.

In the screenshots below, the example machine IP address information that has been used is as follows:

DNA Server: 192.168.1.5 (internal IP address)
Server Gateway: 96.125.3.24 (public IP address)
Agent Gateway: 172.168.1.10 (internal IP address)

Server Gateway configuration

During installation the Server Gateway Configurator is copied to the Gateway folder of the NetSupport DNA program directory. The default file location is:

64bit C:\Program Files (x86)\NetSupport\NetSupport DNA\Gateway\DNAGatewayConfigS.exe
32bit C:\Program Files\NetSupport\NetSupport DNA \Gateway\DNAGatewayConfigS.exe

DNA Server
The internal IP address or machine name of the DNA Server machine (example IP address shown).

DNA Server Port
The TCP port number the Server Gateway connects to the DNA Server on. This is set to port 6000 by default.

Port DNA Server connects on
The TCP port number that the DNA Server connects to the Server Gateway on. This port is set to 6010 by default.

Port Gateway Agents connect on
The HTTP port number that the Agent Gateway connects to the Server Gateway on.

Reset Defaults
Returns all port numbers back to the default values.

Gateway Agents
Any Agent Gateways that have been found by the Server Gateway will be listed. You can add, edit and remove Agent Gateways by clicking the appropriate button.

Lock access to these Agents only
Allows for the control over which Agent Gateways can connect to the Server Gateway.

Agent Gateway Configuration

During installation, the Agent Gateway Configurator is copied to the Gateway folder of the NetSupport DNA program directory. The default file location is:

64bit C:\Program Files (x86)\NetSupport\NetSupport DNA\Gateway\DNAGatewayConfigC.exe
32bit C:\Program Files\NetSupport\NetSupport DNA\ Gateway\DNAGatewayConfigC.exe

DNA Gateway Server Address

The public IP address or DNS name of the Server Gateway machine (example IP address shown).

Port to connect to Gateway Server on

The HTTP port number the Agent Gateway connects to the Server Gateway on. This is set to port 80 by default.

Port DNA Agents connect on

The TCP port number that the DNA Agent(s) connect to the Agent Gateway on. This port is set to 6000 by default.

Port to connect to DNA Agents on

The TCP port number that the Agent Gateway connects to the DNA Agents on. This port is set to 6001 by default.

Retry period for failed connection attempts (seconds)

By default the retry period for failed connections will be 300 seconds. Enter a different value if required.

Reset Defaults

Returns all settings back to the default values.

Checking the DNA Agent Gateway(s) status

The DNA Console can be used to confirm the current status of the Agent Gateways that are connecting to the Server Gateway.

From the DNA Console, go to the Tools menu and click the **Gateway** icon in the Status section of the menu bar.

The Gateway Status window will display the name of the Agent Gateways that have connected to the Server Gateway, the current Status (**OK** or **Unavailable**) and the date and time of the last connection to the Server Gateway.

To view the DNA Agents connected to an Agent Gateway, select the Agent Gateway and click **PCs**.

Disconnected Agent Gateways can be deleted from the Gateway Status window by selecting the Agent Gateway and clicking **Delete**.

Clicking **Refresh** will update the information shown in the Gateway Status window. The Gateway Status window is automatically updated every ten minutes by default.

Note: *If the Server Gateway is restarted, it can take the Agent Gateway(s) five minutes to reconnect to the Server Gateway, unless the Agent Gateway is also restarted.*

Using Telnet to test the DNA Gateway connections

To confirm whether the required connections can be established between the DNA Agent, Agent Gateway, Server Gateway and DNA Server a Telnet test can be run on the machines.

The Telnet Client that is used for the test may not be installed on the operating system by default.

To install the Telnet Client, use the Turn Windows Features on or Off option from the Programs and Features window.

Scroll down the Windows Features list and select Telnet Client. Click **OK** to install the feature. There is no requirement to reboot the machine once the Telnet Client has been installed in order to run the tests.

In the Telnet tests below, the example machine IP address information that has been used is as follows:

DNA Server: 192.168.1.5 (internal IP address)
Server Gateway: 96.125.3.24 (public IP address)
Agent Gateway: 172.168.1.10 (internal IP address)

Notes:
- *The default TCP and HTTP port numbers have been used in these examples, so the port numbers will need to be changed if alternative port numbers have been configured.*
- *The Telnet tests are run from within a command window on the machine you are testing the connection from.*
- *DNS machine names can be substituted for the IP addresses in the telnet tests to check for any potential DNS name resolution issues.*

DNA Agent to Agent Gateway
Command: Telnet 172.168.1.10 6000 [Enter]
Expected Result: Blank command window

Agent Gateway to Server Gateway
Command: Telnet 96.125.3.24 80 [Enter]
Expected Result: Initial blank command window and then a HTTP Keep-Alive response

Server Gateway to DNA Server
Command: Telnet 192.168.1.5 6000 [Enter]
Expected Result: Two smiley face icons and the DNA Server Key

If all Telnet connection tests are successful, restarting the DNA services in the following order may enable the DNA Agent to connect to the DNA Server:

1. NetSupport DNA Gateway Server on the Server Gateway machine.
2. NetSupport DNA Gateway Agent on the Agent Gateway machine.
3. NetSupport DNA Agent on the DNA Agent machine.

If the Telnet connection to the specified IP address or DNS name and port number cannot be established, the following message will be displayed in the command window:

Connecting to xxx.xxx.xxx.xxx…Could not open connection to the host, on port xxx: Connect Failed

The most common reasons for the Telnet test to fail are:

1. A firewall is blocking the connection to the specified port.
2. The DNA Server, Server Gateway or Agent Gateway service is not running.
3. The port numbers used on the DNA Gateway components have been changed from the default values.
4. Port forwarding rules to the Server Gateway may not be configured correctly.
5. Some other software on the Server Gateway is using the specified HTTP port (i.e. IIS Web Server).

To confirm that no other software on the Server Gateway is using port 80 (or the chosen port number), stop the NetSupport Gateway Server service and rerun the Telnet test from the Agent Gateway to the Server Gateway.

No connection should be made. If a connection is made, then some other process on the Server Gateway machine is using port 80 (or the configured port).

DNA Gateway logging
In addition to the Telnet connection tests, it is also possible to configure local logging on the DNA Agent, Agent Gateway and DNA Server machines that can be used to diagnose any problems that are encountered when trying to use the DNA Gateway.

For all machines, the registry location used to apply the component logging is as follows:

64bit HKEY_LOCAL_MACHINE\SOFTWARE\WOW6432Node\NetSupport Ltd\NetSupport DNA
32bit HKEY_LOCAL_MACHINE\SOFTWARE\NetSupport Ltd\NetSupport DNA

Right click on the NetSupport DNA key and select **New Key**.

Enter Logging as the new key name.

For each of the logging entries, there is a corresponding DWORD (32bit) registry entry that needs to be created in the Logging registry key on the machine.

DNA Agent
DWORD Name: Client
Value: 1

The Client.log file will be created in the DNA Agent installation directory (default locations shown below):

64bit C:\Program Files (x86)\NetSupport\NetSupport DNA\Client
32bit C:\Program Files\NetSupport\NetSupport DNA\Client

Agent Gateway
DWORD Name: GatewayC

Value: 1

The GatewayC.log file will be created in the Agent Gateway installation directory (default locations shown below):

64bit C:\Program Files (x86)\NetSupport\NetSupport DNA\Gateway
32bit C:\Program Files\NetSupport\NetSupport DNA\Gateway

Server Gateway
DWORD Name: GatewayS

Value: 1

The GatewayS.log file will be created in the Server Gateway installation directory (default locations shown below):

64bit C:\Program Files (x86)\NetSupport\NetSupport DNA\Gateway
32bit C:\Program Files\NetSupport\NetSupport DNA\Gateway

DNA Server
DWORD Name: Server

Value: 1

The Server.log file will be created in the DNA Server installation directory (default locations shown below):

64bit C:\Program Files (x86)\NetSupport\NetSupport DNA\Server
32bit C:\Program Files\NetSupport\NetSupport DNA\Server

These log files, along with a detailed report of any issues found regarding the DNA Gateway, can be sent to the Technical Support team at *support@netsupportsoftware.com*.