APPLICATION NOTE

AN0023

CONNECTING AN EWSi CONTROLLER USING A DDNS

INTRODUCTION

This application note explains how to establish communication between the PROS software and an EWSi controller over the internet using a DDNS *(Dynamic Domain Name System),* in this case the EWSi controller is connected using a service provider without a Static IP.

HARDWARE REQUIREMENTS

EWSi controllers
Switch Router

SOFTWARE & FIRMWARE REQUIREMENTS

Laptop / PC
PROS plus ver 2.1.2 *(or later)*
Windows 7 OS.

EXPLANATION

If the site where the EWSi controller is installed is different from the site where the PROS software will run and there is no static IP on the installation then there are two basic ways to achieve interconnection:

- **<u>Method 1 *(Recommended)*</u>**
  Configure the switch router at the installation site to obtain the DNS domain.

- **<u>Method 2</u>**
  Configure one EWSi controller to obtain the DNS domain.

Fig.1 below shows the system layout.

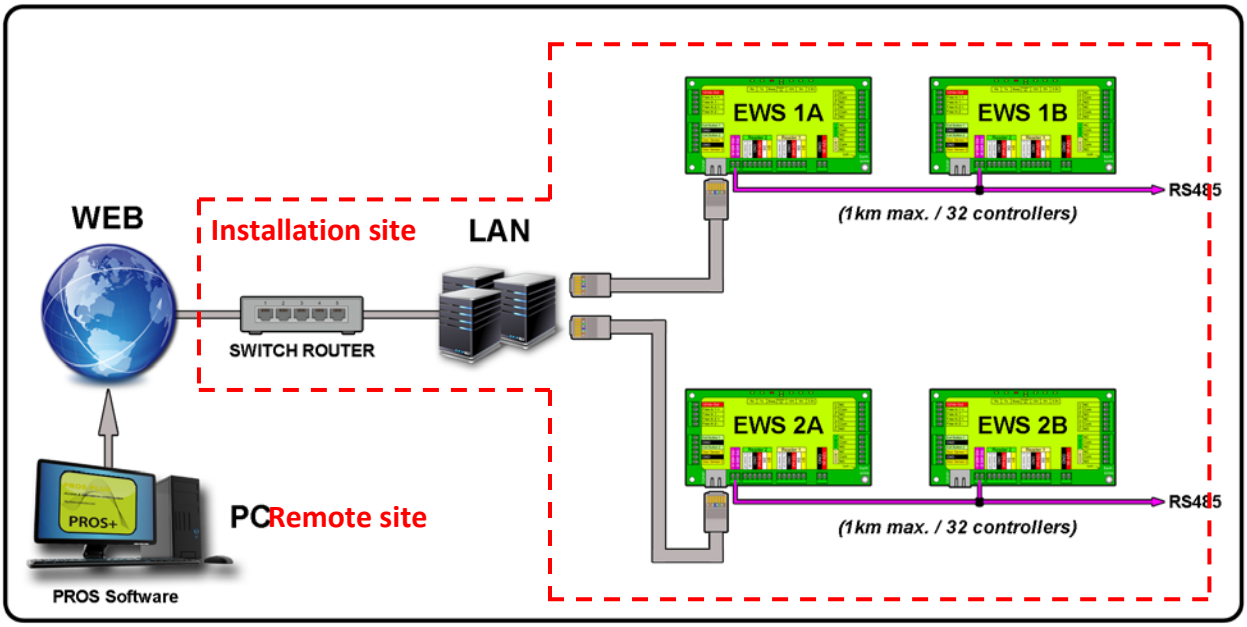

Fig.1

IMPORTANT NOTE: In this example it is assumed at this point that the PROS software is already installed on the PC at the remote site and the EWSi controllers have already been correctly installed at the installation site.

Method 1 *(Recommended)* – Configuring the switch router at the installation site to obtain the DNS domain

Requirements:
The switch router at the installation site must support Dynamic DNS *(DDNS)* service.

Step 1: Register the DNS hostname at the DDNS service *(Videx recommend choosing a DDNS service supported by your switch router)*. The example given below is using TP-Link Router and their recommended Dynamic DNS service provider.

- On the main TP-Link router screen highlight and click on the 'Dynamic DNS' option.
- From the 'Service Provider' field and drop down menu select the service provider, in this example select *'Dyndns (www.dyndns.org)'*, as shown in Fig.2.

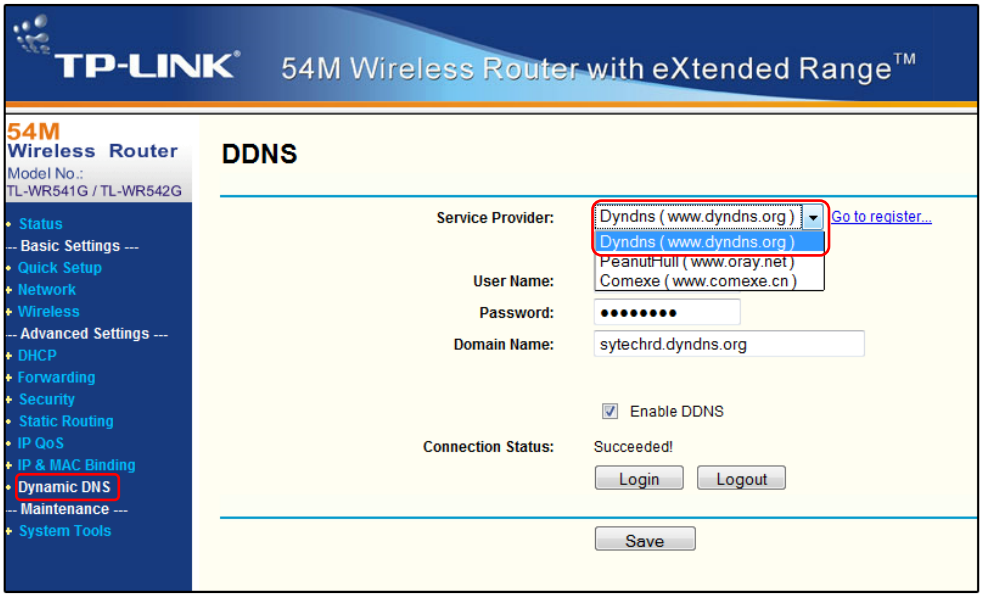

Fig.2

- Go to the website of the selected service provider *(in this case dyndns.org)* to register the hostname and setup an account.

Once on the main dyndns.org web page follow the steps below:

- Click on the 'Get Started' option and the following window will appear, see Fig.3. Under the 'DynDNS Free' column click on the 'Sign Up' button.

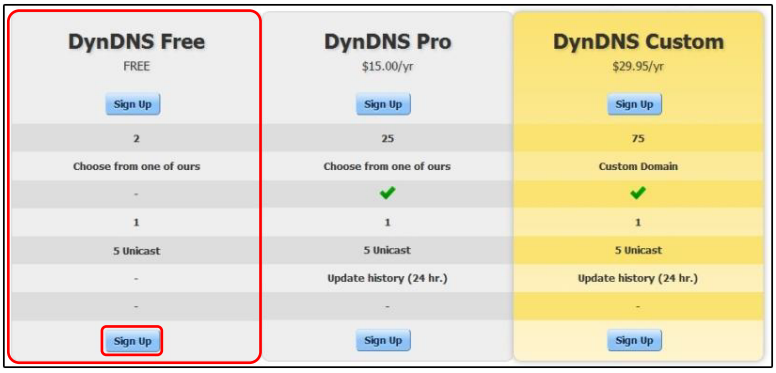

Fig.3

- When the new hostname screen appears *(refer to Fig.4)* complete the following details:

  - Enter the hostname that is to be used *(for example 'my-company').*
  - Ensure the Service Type 'Host with IP address' is checked.
  - Click on the IP link in order to obtain **your** Dynamic IP address.
  - Select the type of application from the list of available options from the 'Remote Access For Devices' list *(in this example select 'alarm and security').*
  - Click on the 'add to cart' button.

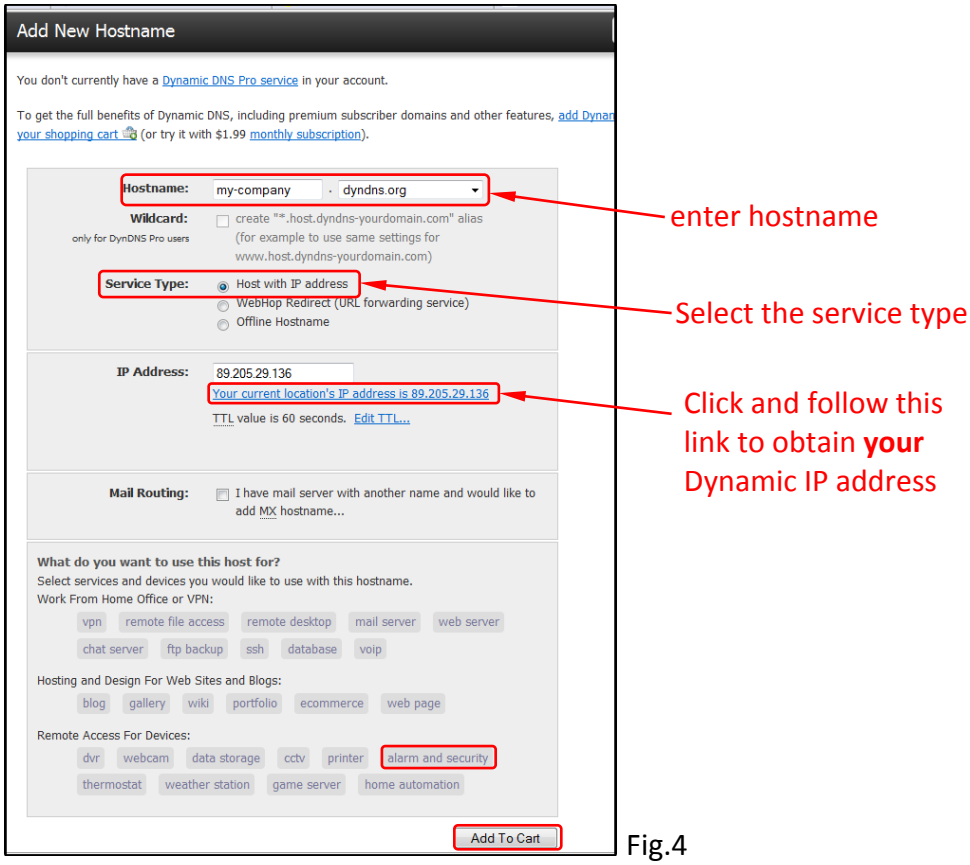

Fig.4

- When the 'create an account' screen appears *(refer to Fig.5)* complete the following details:

  - Complete the online form *(remembering the username and password).*
  - Wait for the confirmation email and confirm the account has been created.

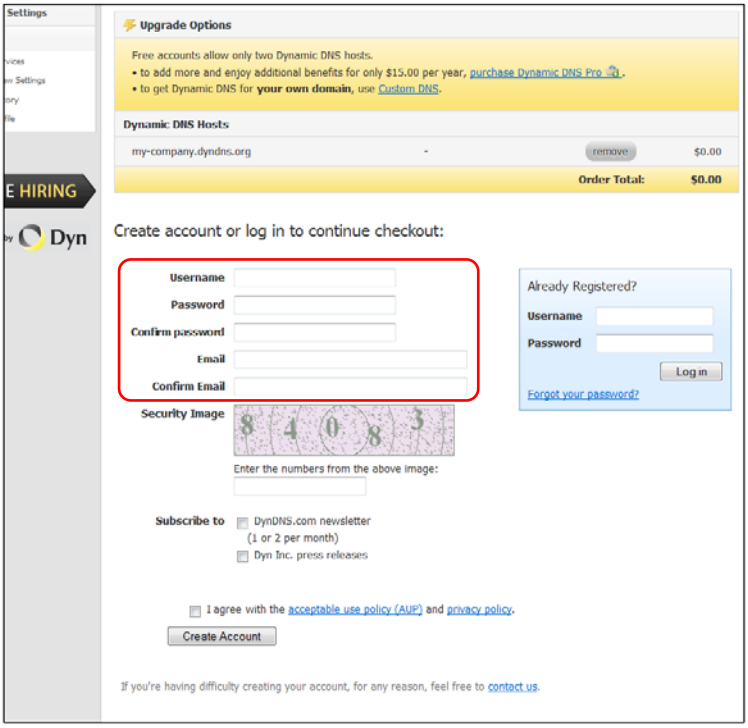

Fig.5

- When the shopping cart screen appears, click on the 'proceed to checkout' button as shown in Fig.6.

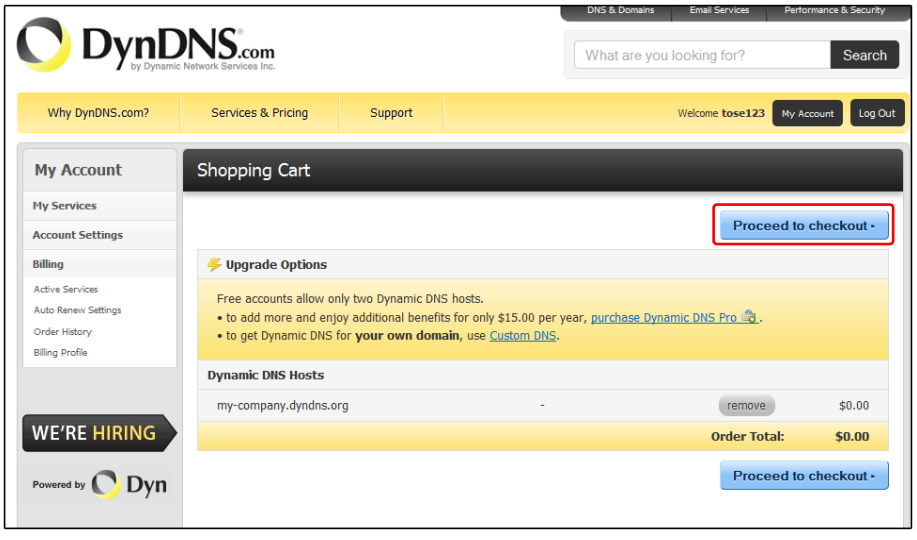

Fig.6

- When the checkout screen appears, click on the 'activate services' button as shown in Fig.7.

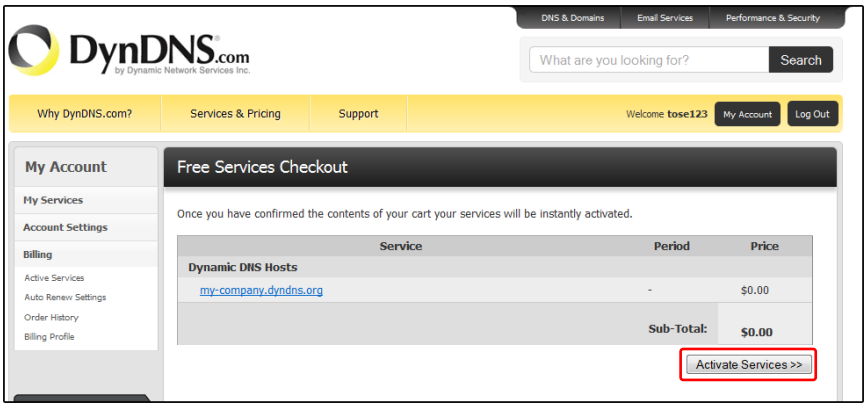

Fig.7

- When the 'host services' screen appears copy or make a note of the hostname provided *(in this case 'my-company.dyndns.org')* as shown in Fig.8.

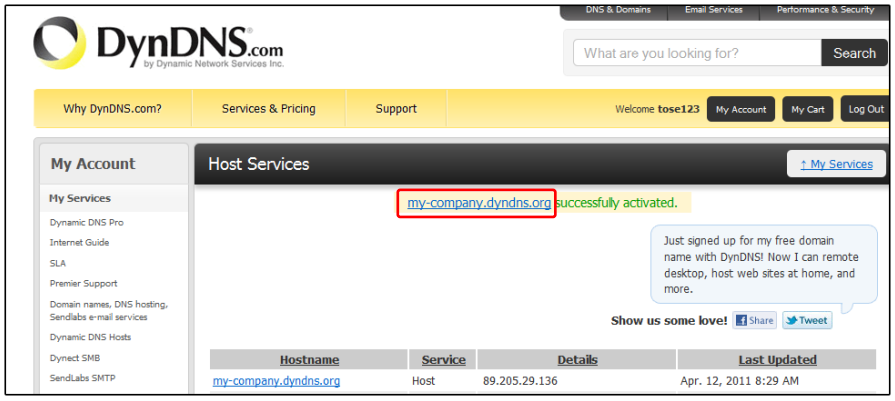

Fig.8

IMPORTANT NOTE: Please be aware that **Step 1** is only an example of how to setup and create an account via a DDNS service provider in order to obtain a hostname. The screen shots that are shown are specific to DynDNS.com if a DDNS hostname was obtained from them. When creating an account and setting up a hostname through a different DDNS service provider, although the setup will not be exactly the same, they will be similar. Most DDNS service providers will have some form of setup guide on their website and therefore Videx suggest reading through this before attempting to obtain a hostname. Please also note that there are several online DDNS service providers offering the same basic services as well as additional services some of which may be free and/or purchasable. Below is a list of just a few online DDNS service providers *(please note that this list is not exhaustive):*

www.no-ip.com
www.changeip.com
www.dnsdynamic.org
freedns.afraid.org

If in any doubt Videx suggests browsing the web until a suitable DDNS service provider has been found that suits your needs.

Step 2: Setting up your switch router to use the DynDNS service setup in **Step 1**.

- Return to the main TP-Link router screen then highlight and click on the 'Dynamic DNS' option, as shown in Fig.9.
- Enter or paste the hostname 'my-company.dyndns.org' that was created in **Step 1** into the 'Domain Name' field.
- Enter the username and password that was created in Step 1 in the 'User Name' and 'Password' fields respectively.
- Check the 'Enable DDNS' tick box.
- Click on the 'Login' button.
- After successful configuration of the switch router the 'Connection Status' field will update with a 'Succeeded!' message as shown in Fig.9.

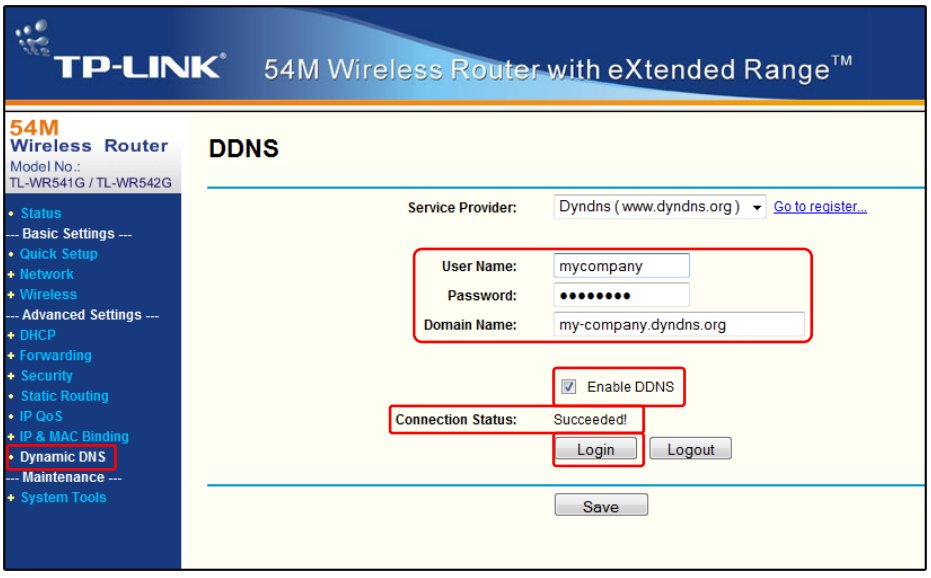

Fig.9

Step 3: Setting up Port Forwarding for the EWSi controller.

- On the main TP-Link router screen highlight and click on the 'Forwarding' option and then select the 'Virtual Servers' option from the drop down list. The 'Virtual Servers' screen will appear as shown in Fig.10.

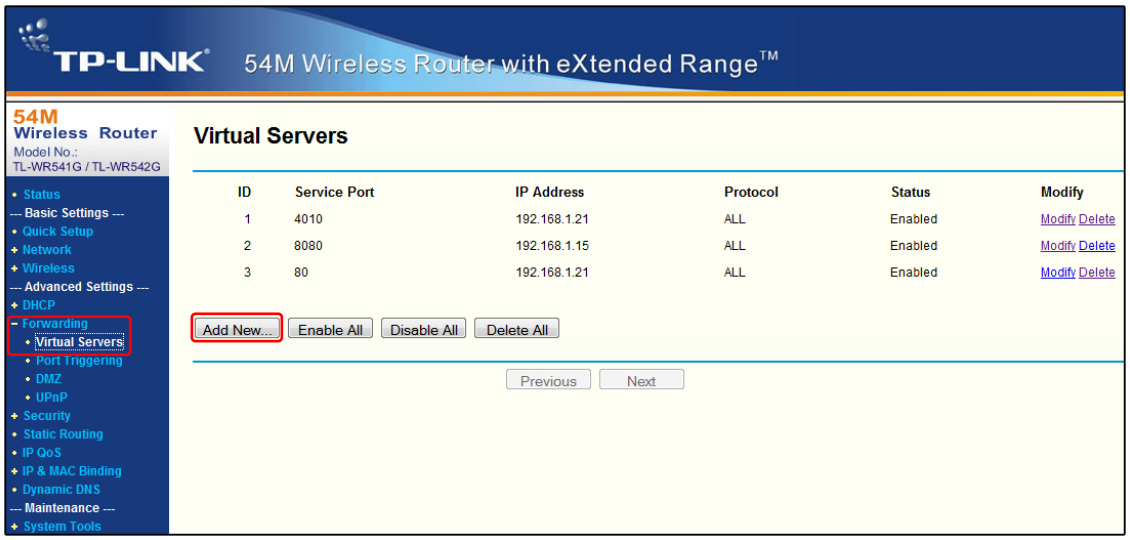

Fig.10

- On the 'Virtual Servers' screen click on the 'Add New' button, refer to Fig.10. The 'Add or Modify a Virtual Server Entry' screen will appear, as shown in Fig.11.

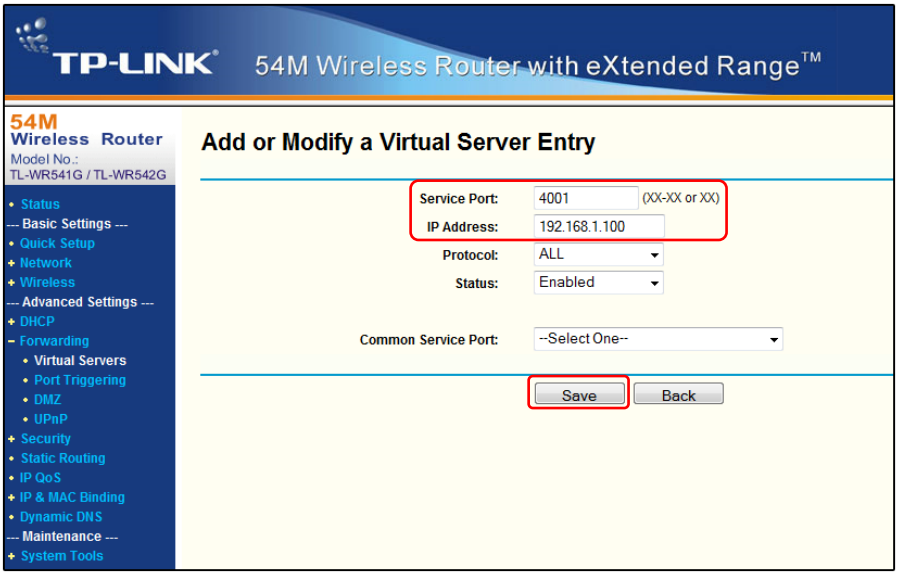

Fig.11

- Enter the Port number into the 'Service Port' field *(in this case 4001)* and the IP address of the EWSi controller into the 'IP Address' field *(in this case 192.168.1.100),* as shown in Fig.11.
- Click on the 'Save' button.

Step 4: Inserting the DNS Hostname, that was setup in **Step 1**, into the PROS software *(the PROS software that is installed on the PC at the remote site)*.

- First open the PROS software on the PC that is located at the remote site.
- Create a Portal with the IP address: ***my-company.dyndns.org*** using the following steps:

- Highlight 'Portals' in the PROS software, right click and then select 'Add Portal' from the drop down window, as shown in Fig.12.

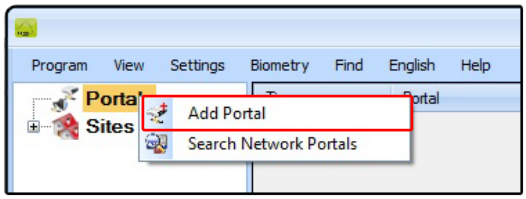

Fig.12

- The 'Portals' window will appear, as shown in Fig.13. Complete the Portal details, in this example the Portal name: ***Factory Bruges***, IP Address: ***my-company.dyndns.org***, Port: ***4001***.
- Check the 'Network communication' box is ticked.
- Click on the 'Save & Exit' button to create the new portal.

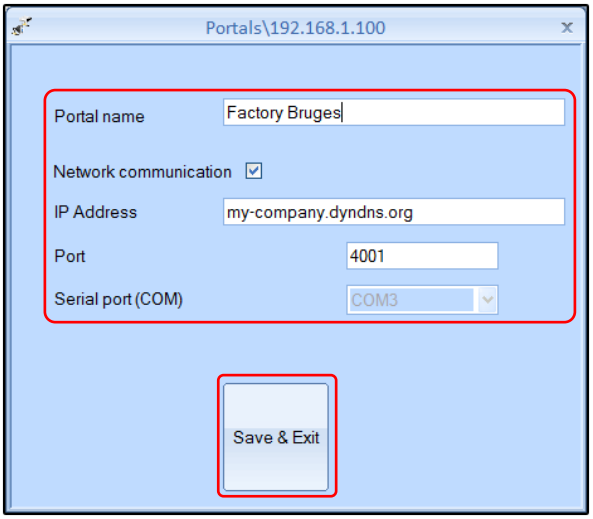

Fig.13

Method 2 – Configuring one of the EWSi controllers at the installation site to obtain the DNS domain

Limitations of Method 2:
It is important to note that **only 1** EWSi controller can be setup and **only** the dyndns.org Dynamic DNS service provider can be used to setup and register the DNS hostname.

Step 1: Configuring the EWSi controller and creating a DDNS hostname with dyndns.org.

- In the web browser on the PC *(Internet Explorer, Mozilla etc.)* type in the following IP address of the EWSi controller: http://192.168.1.100, as shown in Fig.14. The EWS Login window will appear as shown in Fig.15.

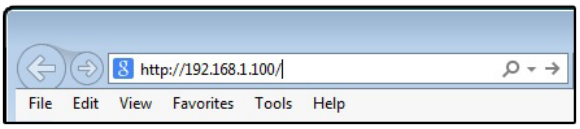

Fig.14

Fig.15

- Enter the default Username: ***admin***, Password: ***00000000*** in the appropriate fields then click on the 'Login' button. The EWS settings window will appear as shown in Fig.16.

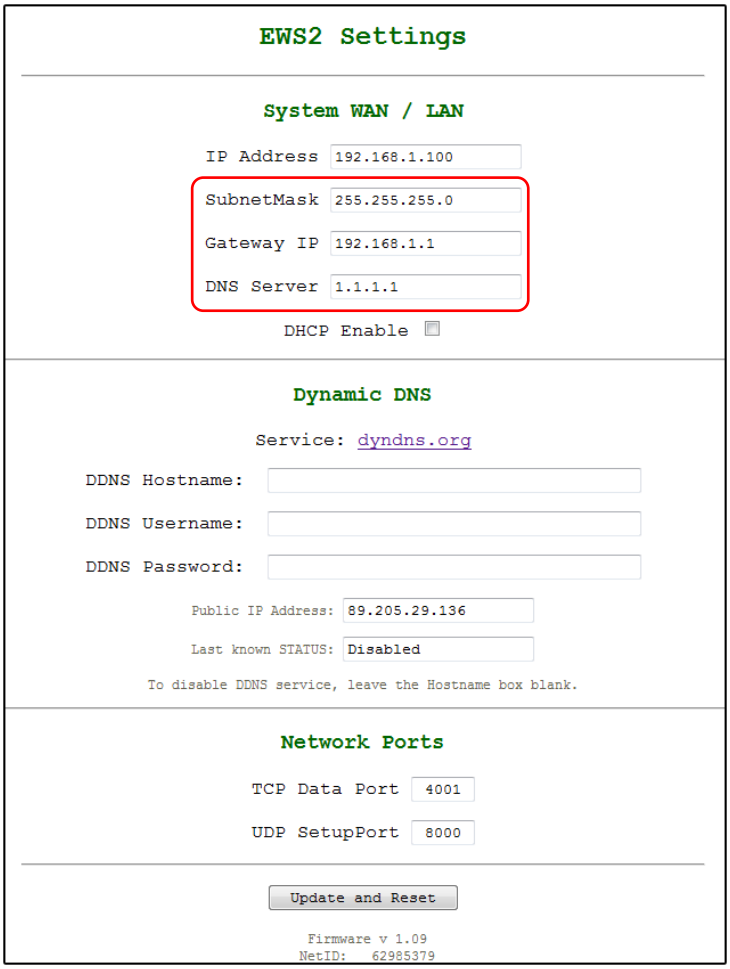

Fig.16

- The Subnet Mask, default Gateway IP and DNS Server information *(outlined in red in Fig.16)* must be set according to your network configuration.
- To find this information *(using Windows 7 OS)* click on the 'Start' icon on the PC desktop, open the 'Control Panel', click on the 'Network and Sharing Center' icon, select 'Change adapter settings' from the left hand side menu and then click on the 'Local Area Connection' icon to open the 'Local Area Connection Status' window, as shown in Fig.17A.
- Next click on the 'Details' button to open the 'Network Connection Details' window, as shown in Fig.17B.

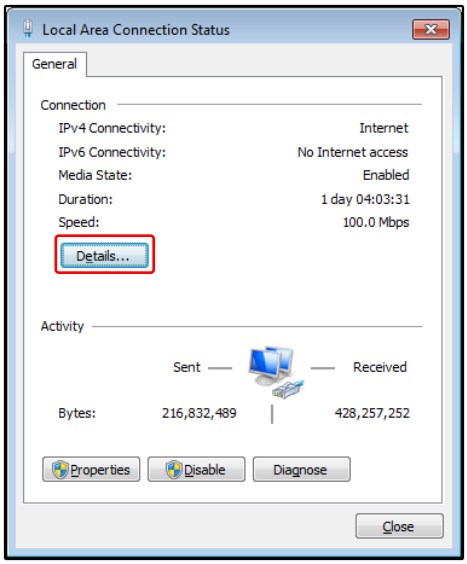

Fig.17A

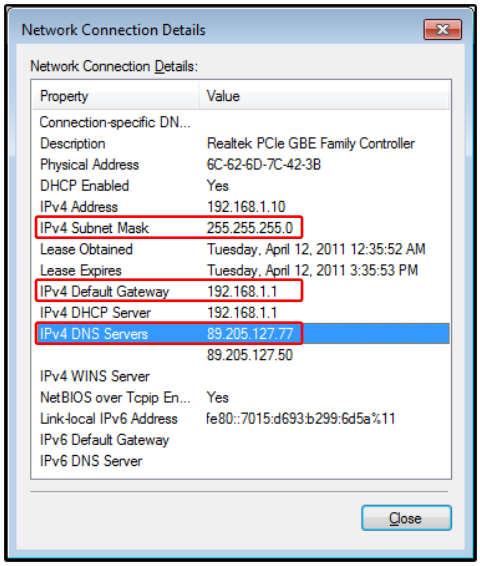

Fig.17B

- Make a note of the Subnet Mask, the default Gateway IP and the DNS Server address from this window. When finished close the windows down and return back to the EWS settings window.
- On the EWS settings window enter the Subnet Mask, the default Gateway IP and the DNS Server address from the previous step into the appropriate fields, as shown in Fig.18.

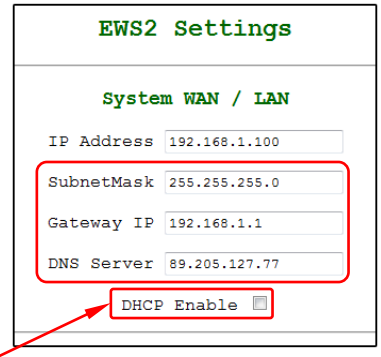

Fig.18

IMPORTANT NOTE: If DHCP was enabled then all the parameters in these fields would have already been set automatically by the switch router, including the IP address of the EWSi controller.

- Next click on the **dyndns.org** link, as shown in Fig.19, to setup an account and create a hostname.

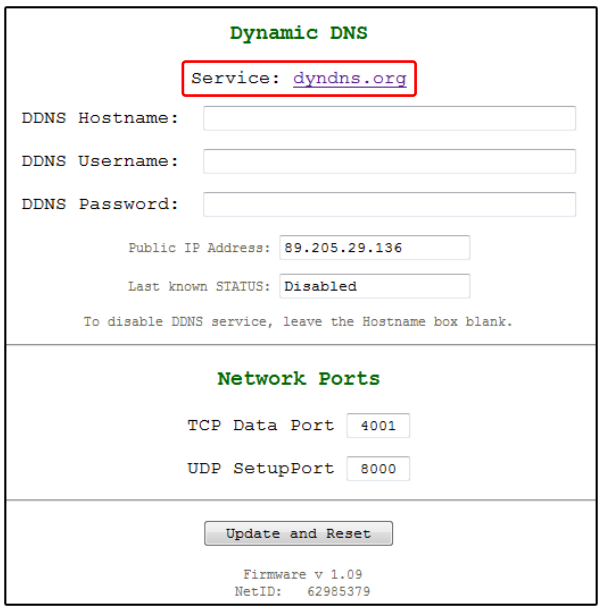

Fig.19

- Once the main dyndns.org web page appears follow the steps described in **Method 1, Step 1** *(highlighted in yellow on pages 2 – 5 of this application note)* to setup an account and hostname with the Dynamic DNS service provider.
- Return back to the EWS settings window and then enter the DDNS Hostname: ***my-company.dyndns.org***, DDNS Username: ***mycompany*** and DDNS Password: ********** into the appropriate fields, as shown in Fig.20.

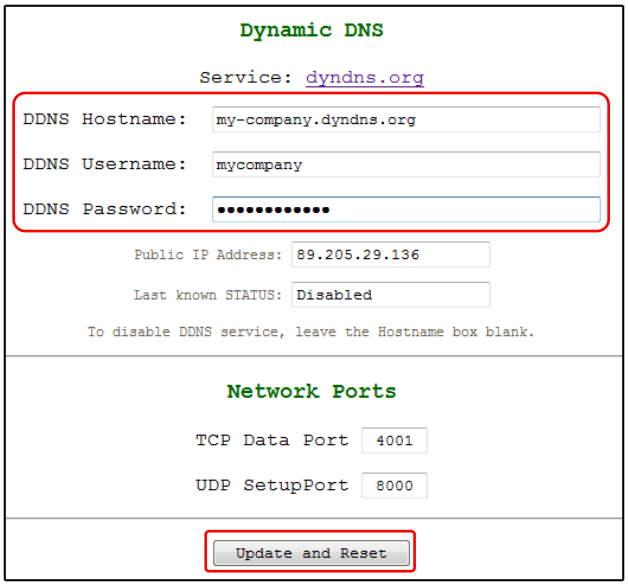

Fig.20

- Click on the 'Update and Reset' button and then wait for approximately 30 seconds for the system to update.

- Reconnect to the EWSi controller by entering the IP address of the EWSi controller: http://192.168.1.100, into the web browser, as shown in Fig.21.

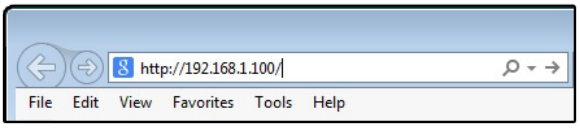

Fig.21

- After a successful configuration the 'Last known STATUS:' field will show 'Success', as shown in Fig.22.

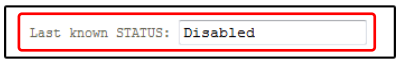

Fig.22

Step 2: Port Forwarding the Switch Router

After successfully configuring the EWSi controller **Port Forwarding** *(a dedicated switch port)* is mandatory. The example given below is using a Linksys Switch. The Ports **80** and **4001** are forwarded to the EWSi controller's IP address **192.168.1.100**.

- On the main Linksys Switch screen select the **'Application & Gaming'** tab near the top of the screen, as shown in Fig.23.

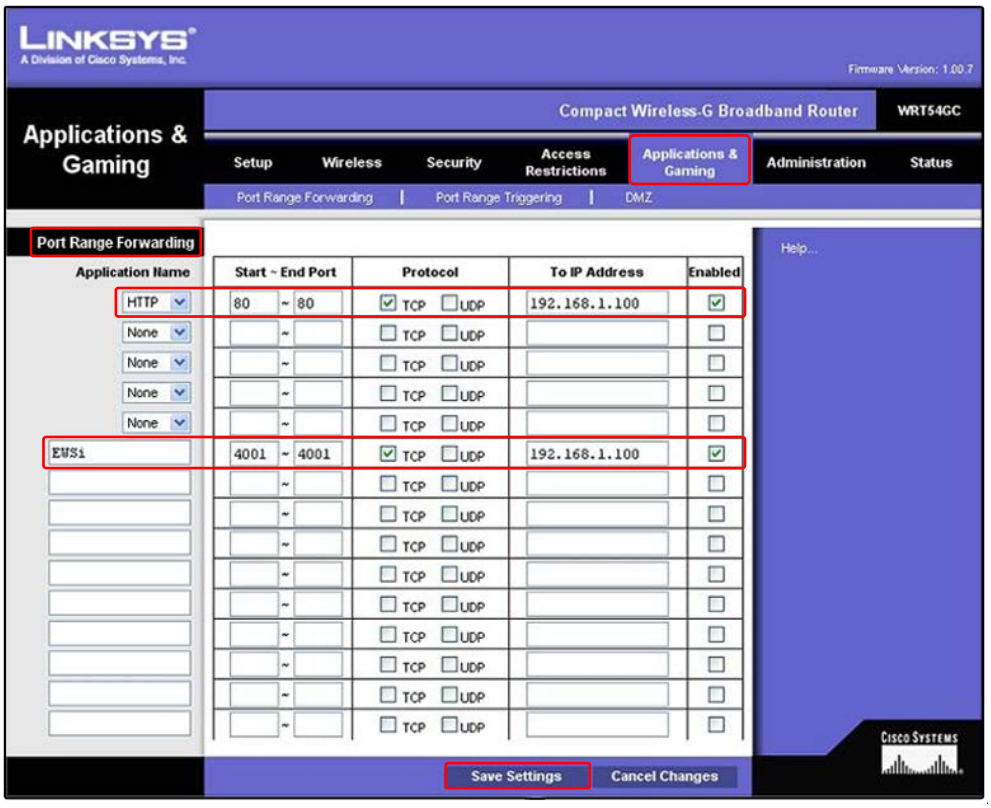

Fig.23

- A new menu should appear. From this menu click and select **'Port Range Forwarding'**, refer to Fig.23.
- If you are forwarding a single port, enter that port number into the '**Start'** and the '**End'** boxes. If you are forwarding a range of ports, enter the lowest number of that range into the '**Start'** box and then enter the highest number of that range into the '**End'** box.
- In this example complete the details as shown in Fig.23 checking the TCP protocol box and checking the enabled box and then click on the 'Save Settings' button at the bottom of the screen.

Step 3: Inserting the DNS Hostname, that was setup in **Method 1, Step 1**, into the PROS software *(the PROS software that is installed on the PC at the remote site)*.

- First open the PROS software on the PC that is located at the remote site.
- Create a Portal with the IP address: ***my-company.dyndns.org*** using the following steps:
  - Highlight 'Portals' in the PROS software, right click and then select 'Add Portal' from the drop down window, as shown in Fig.24.

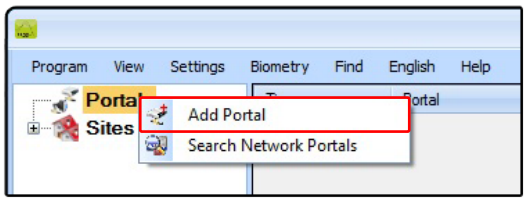

Fig.24

  - The 'Portals' window will appear, as shown in Fig.25. Complete the Portal details, in this example the Portal name: ***Factory Bruges***, IP Address: ***my-company.dyndns.org***, Port: ***4001***.
  - Check the 'Network communication' box is ticked.
  - Click on the 'Save & Exit' button to create the new portal.

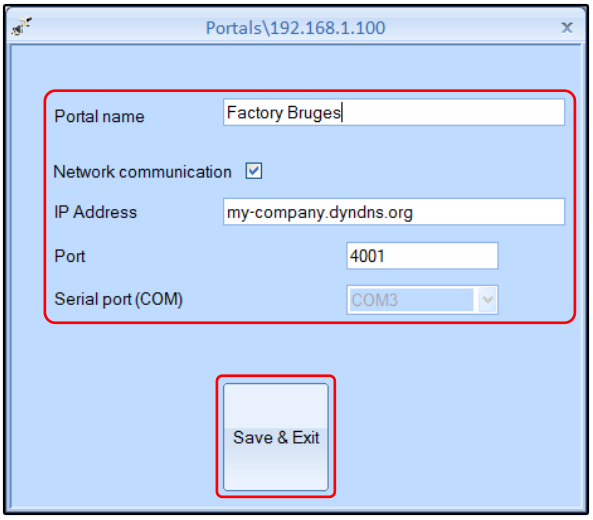

Fig.25