SonicWALL VPN Site to site with dynamic IP-Addresses

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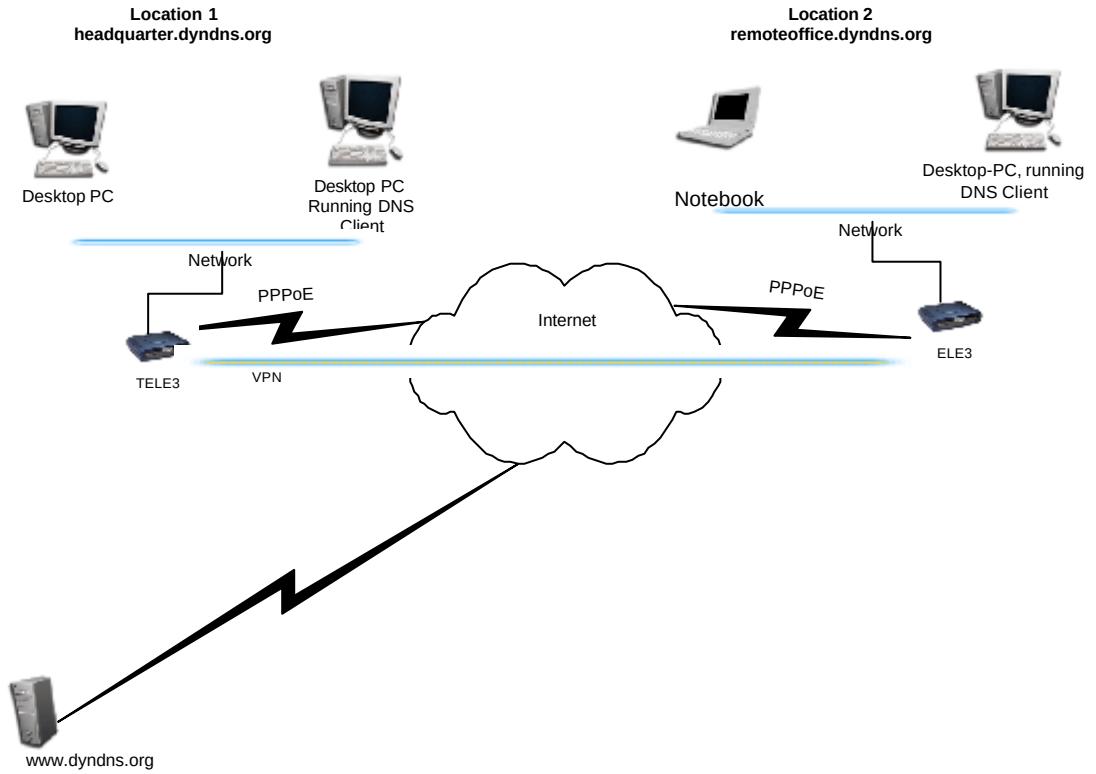
Introduction:
A lot of small companies are using inexpensive DSL-Connections for internet access, as transmission rates are mostly sufficient. But as VPN's are still getting more popular, those customer would like to do site to site VPN's with the infrastructure they already have in place. Because on low-cost DSL-Connections the IP-Address is dynamically assigned and changes frequently (at least once a day), VPN deployment has not been possible without upgrading to a connection type that offered a fix IP-Address – at a much higher price.
With the introduction of Firmware 6.4, SonicWALL does a first step into this direction to help establishing VPN-Tunnels between dynamic IP Addresses.

Technical Notes:
In this test, a VPN tunnel between two SonicWALL Appliances with VPN functionality, both located behind DSL Connection with dynamic IP-Addresses has been established. As Firmware, Version 6.4 was used.

Additionally, an account from a provider offering dynamic DNS translation and a software tool to update the IP-information in this account is required.

Simple Topology:



Creating an Account on a Dynamic DNS Provider's Web Page

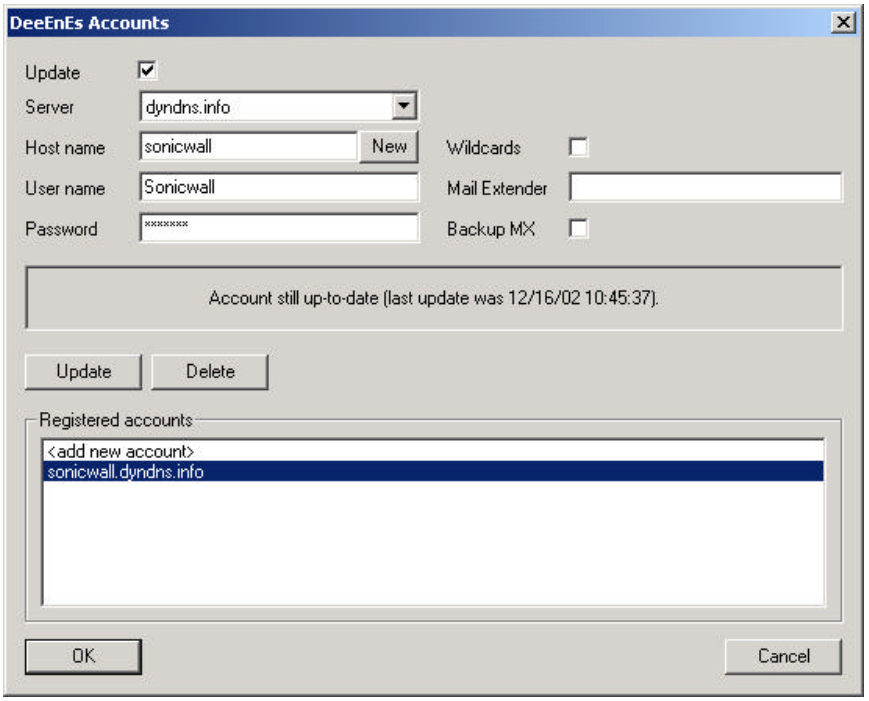
The first thing that is required is an DNS-Name that redirects to the current dynamic IP-Address. Select an Dynamic DNS Provider of your choice. In this example, DYNDNS.ORG has been chosen. Create an account on the Web-Site. One Account can contain various DNS Names. Select an Hostname – in this example sonicwall.dyndns.info has been chosen for one site. Create a hostname for each site you want to create VPN's to.

Installation & configuration of the DNS-Tool

Download a Dynamic DNS Client, on most of the Dynamic DNS Providers Web pages you'll find links to freeware tools. For this configuration, the DeeEnEs-Client has been selected. It's small and easy to use.

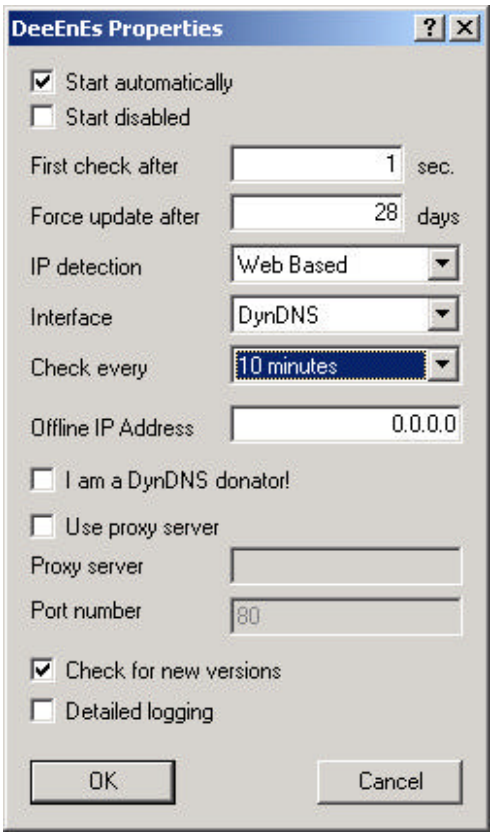
The DNS client fulfills the task to update the DynDNS-Database with the current WAN-IP-Address the SonicWALL has been assigned by the provider.

Install the Tool and add the DynDNS-Account details you've just created on the Website.



IP-Address checking is done by the tool as follows: DeeEnEs will contact an external entity (like www.whatismyipaddress.com) to determine the current WAN-IP Address. If the IP-Address has changed, the tool will update the DynDNS-Hostname in the Database with the current IP-Address. To avoid flooding of the page that determines the current IP-Address, there are limitations how often the IP-Address can be checked. The minimum time that can be set with the Tool DeeEnEs is 10 Minutes. So there is a maximum possible gap of 10 Minutes after changing the IP-Address where the VPN Tunnel will not be available. After the database is updated and data is sent to the other site of the tunnel, it will be reestablished automatically.

Now configure the tool and set the cycle to check the IP-Address.

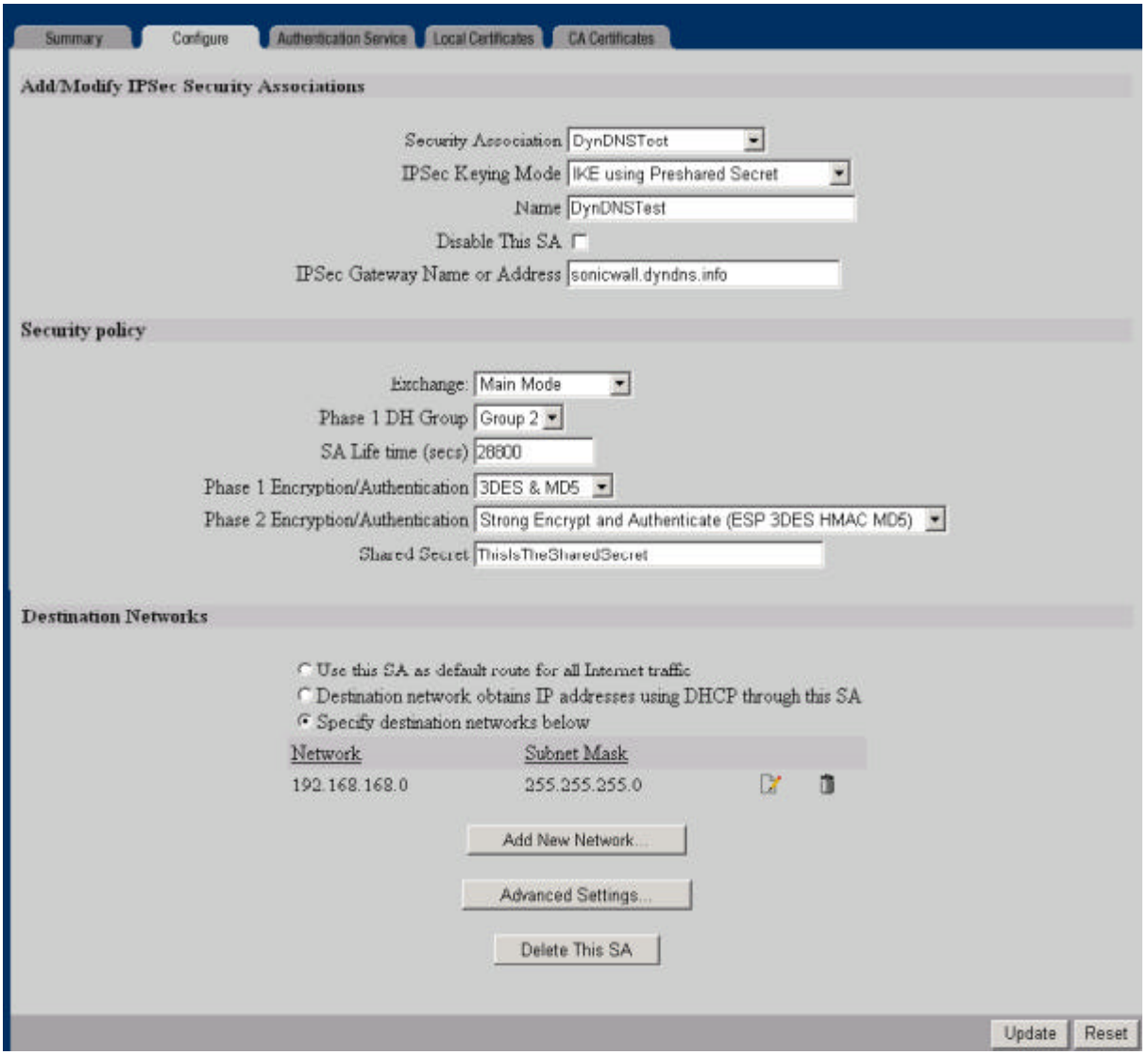


When both Sites are reachable by an DNS Name, the SonicWALL s can be configured

SonicWALL Configuration

Create an SA on both SonicWALLs. As IPSec Gateway Name enter the DNS Names created at the Dynamic DNS Provider's Web page, pointing to the remote SonicWALL.

Use Main Mode in the Exchange List-Box. Configure all other parameters as usual.
An example configuration is here:



Establishing the tunnel
Pinging an IP-Address of the remote network will establish the Tunnel.

Troubleshooting
If there are any problems, check the following:
- is the SA on both appliances properly configured?
- check the current WAN-IP Address of the appliance in the SonicWALL GUI. Has this been updated at the Dynamic-DNS Provider (you can check this by looking at the DNS-Tool running on the computer or directly at the DNS-Provider Web page)

Additional Information
A different system/tool for Dynamic DNS has been tested as well: DynIP (www.dynip.com). It works the same way – it's a little bit easier to use, as you just download the tool and maintain your account from the tool – so there is no creation of accounts on the web page. As well, updating the IP-Address after a change of the address seems to be quicker (average time 3 mins). A demo-version is available, but after an evaluation period this tool has to be purchased (dyndns.org is free).