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Microsoft Forefront UAG – How to configure arrays in Forefront UAG

Abstract

This is a two part article series. In the first article we created a Forefront UAG array with two array members. In this article I will show you how to implement Network Load Balancing (NLB) for the Forefront UAG array.

Let's begin

In part I of this article series we created a Forefront UAG array with two Forefront UAG members. In this article we will provide high availability for the Forefront UAG array with integrated Windows NLB (Network Load Balancing).

To enable NLB for the Forefront UAG array start the Forefront UAG management console, click *Admin – Network Load Balancing*.

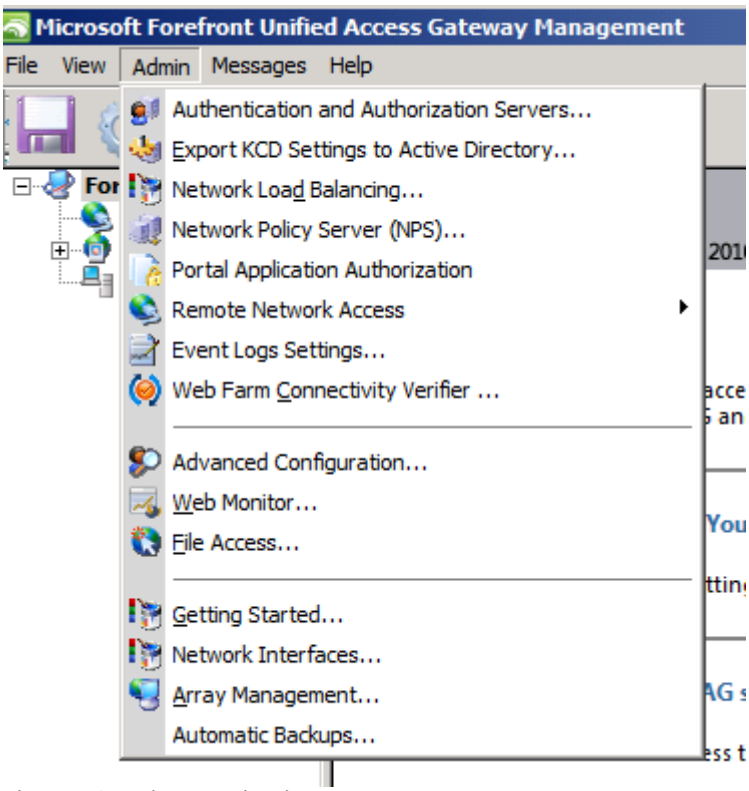

Figure 1: Start the NLB wizard

Define a virtual IP address (VIP) for the networks for which you want to enable NLB. For this article we would like to enable NLB for the external interface of the Forefront UAG Server. Each Forefront UAG Server has one or more dedicated IP address(es) (DIP) which must be in the same IP subnet as the VIP. Depending on your network environment you are able to use Multicast – Multicast with IGMP or Unicast NLB. Each NLB mode has some pros and cons and you should get in contact with your network infrastructure department to find the right NLB operation mode.

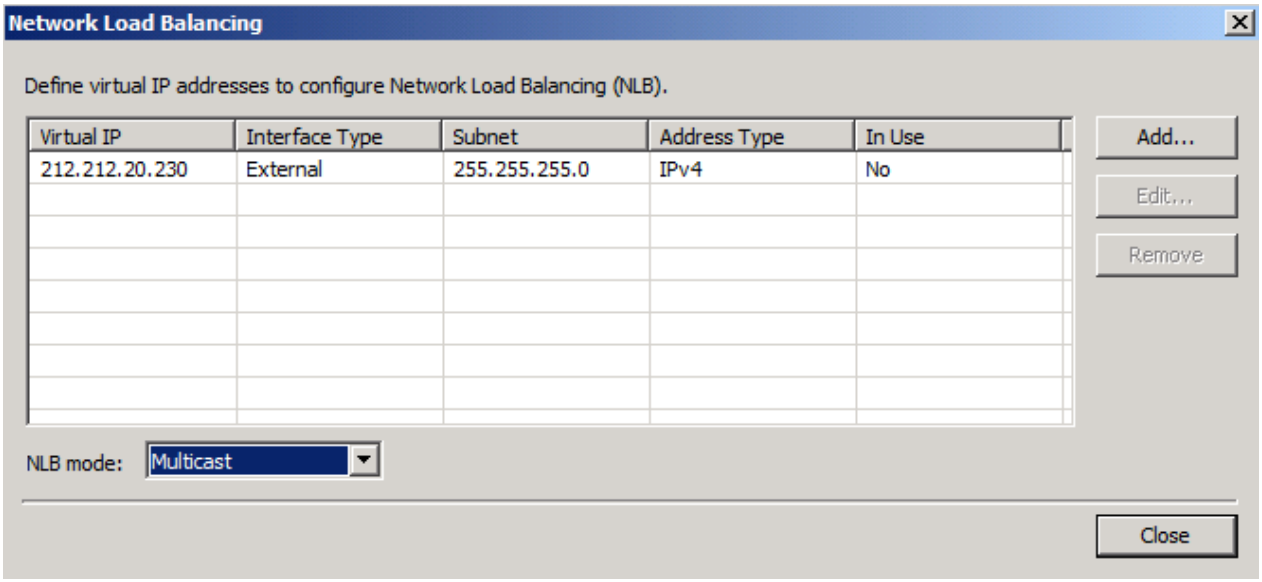

Figure 2: Enable NLB on the external network card

Save and activate the configuration in the Forefront UAG console.

As you can see in the following screenshot, the NLB configuration will be activated also in the Forefront TMG management console, but we have to start NLB with the Forefront UAG Web Monitor.

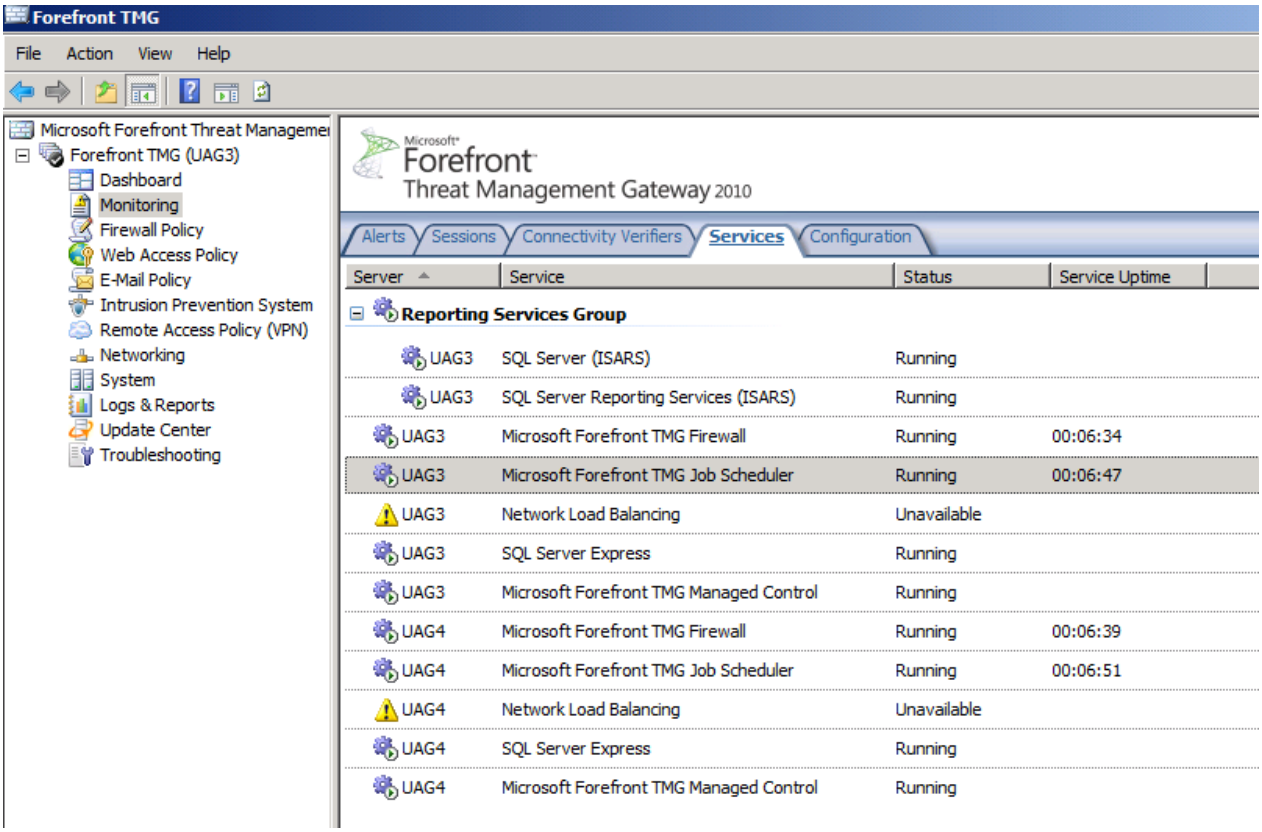

Figure 3: Configuring NLB

Start the Forefront UAG Web Monitor, navigate to the Array monitor, select booth Forefront UAG array members and select *Start* and hit the *Apply* button. NLB will now be activated.

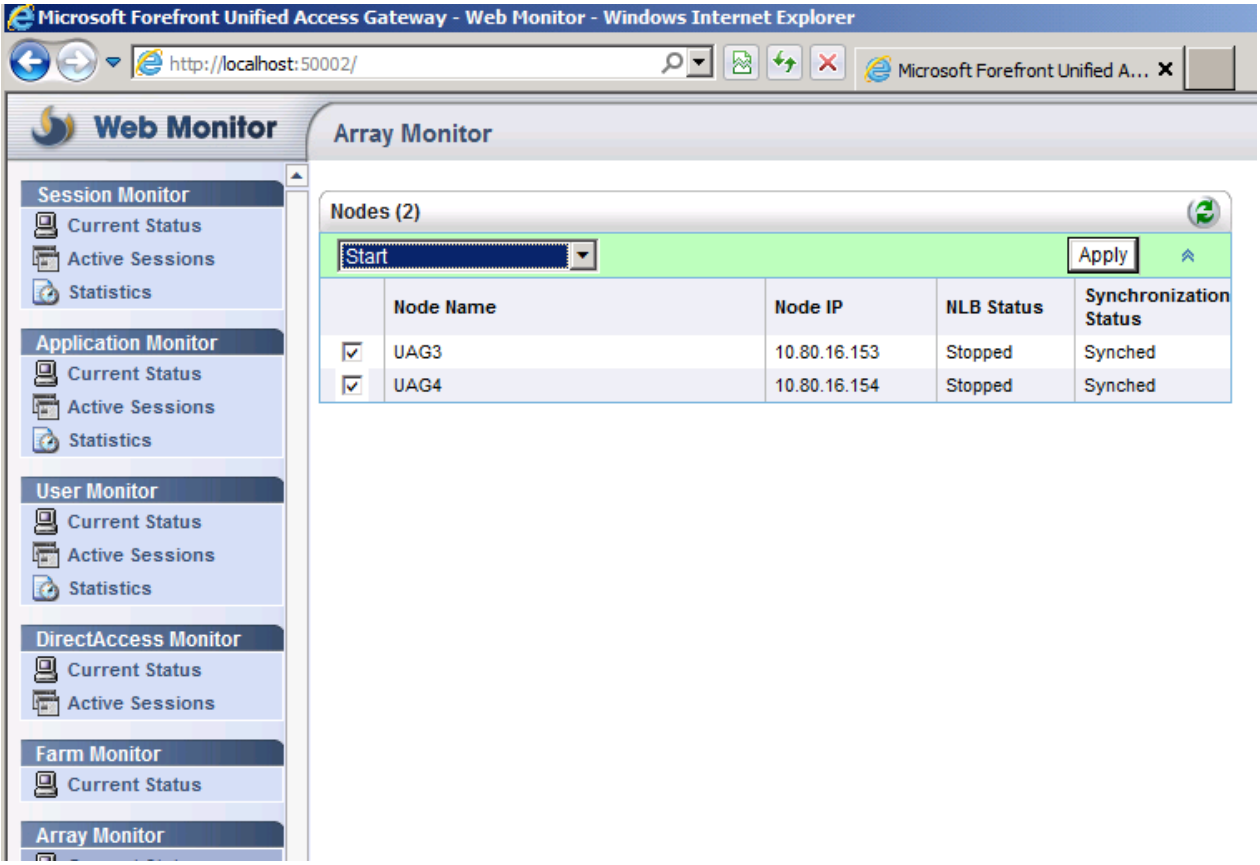

Figure 4: Start NLB configuration with the Forefront UAG Web Monitor

It takes some time until both Forefront UAG array members are converged.

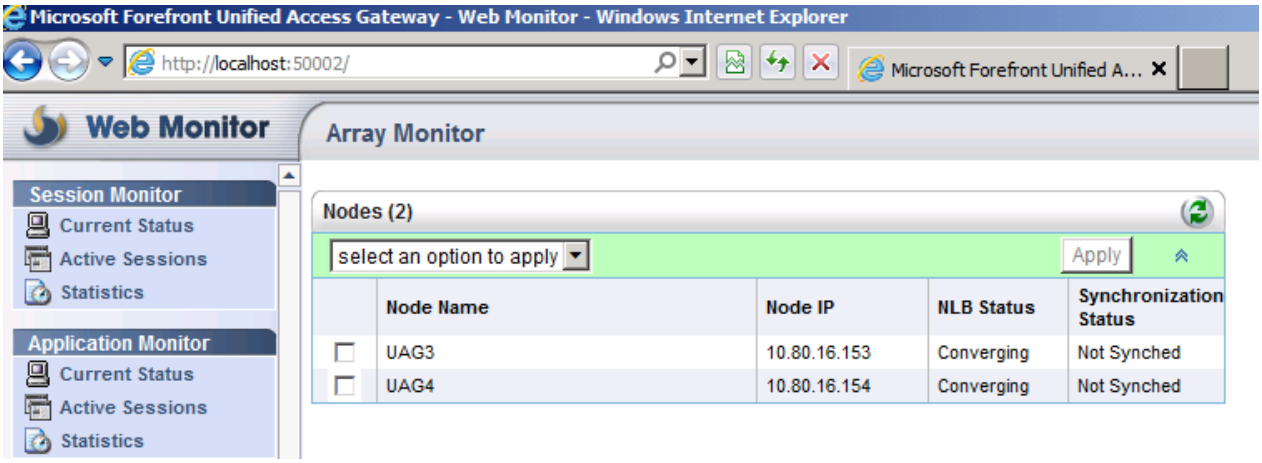

Figure 5: NLB is converging

Forefront UAG will automatically configure the NLB in the Windows NIC properties. The Windows Server feature Network Load Balancing was automatically installed during the Forefront UAG installation.

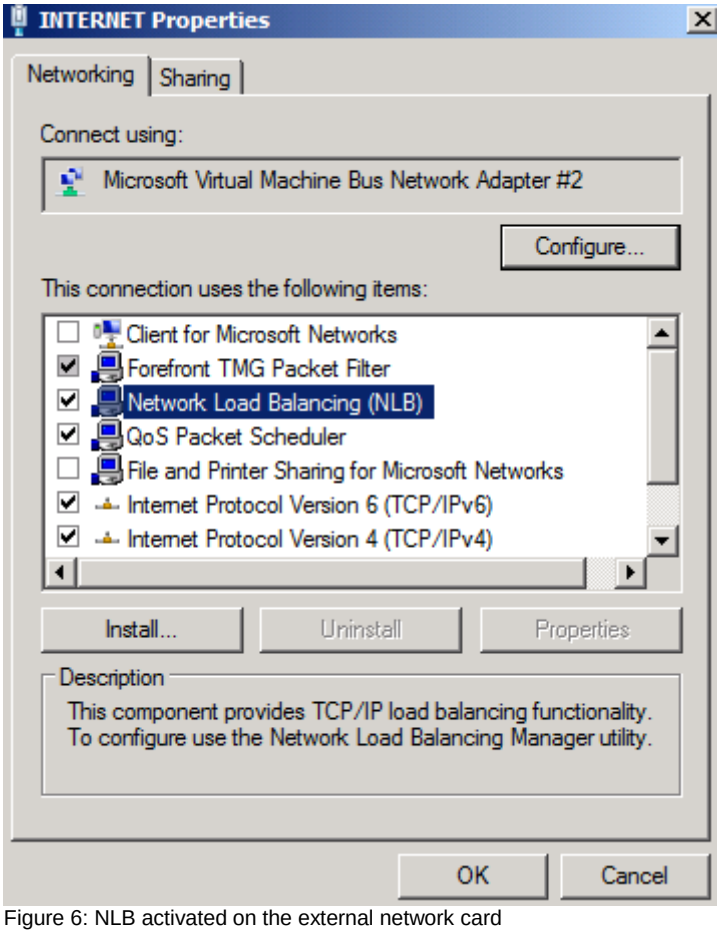

Figure 6: NLB activated on the external network card

After some times the NLB status in the Forefront UAG Web Monitor is converged.

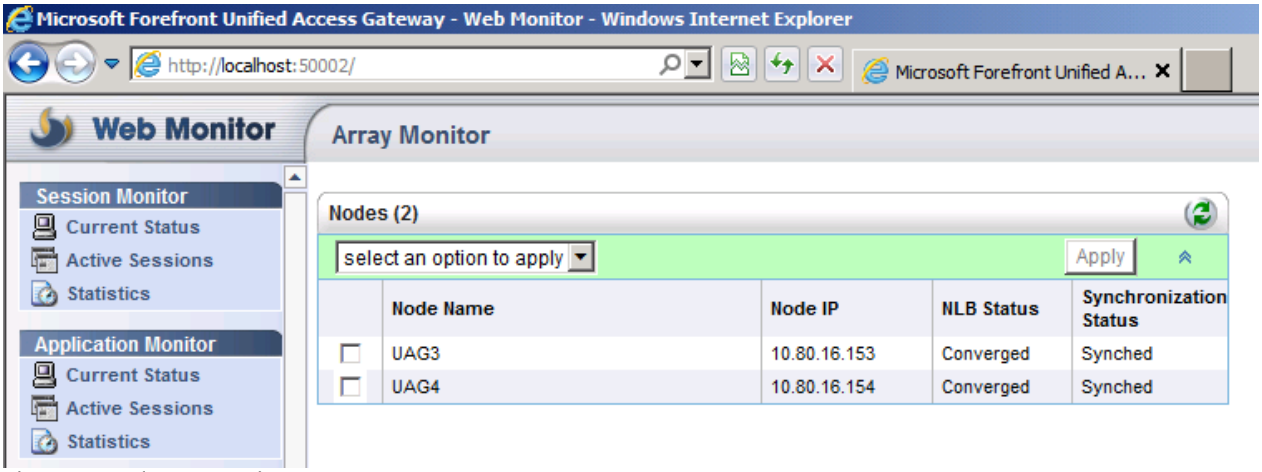

Figure 7: NLB is converged

You can also see the running NLB configuration in the *Monitoring – Services* tab of the Forefront TMG management console as shown in the following screenshot.

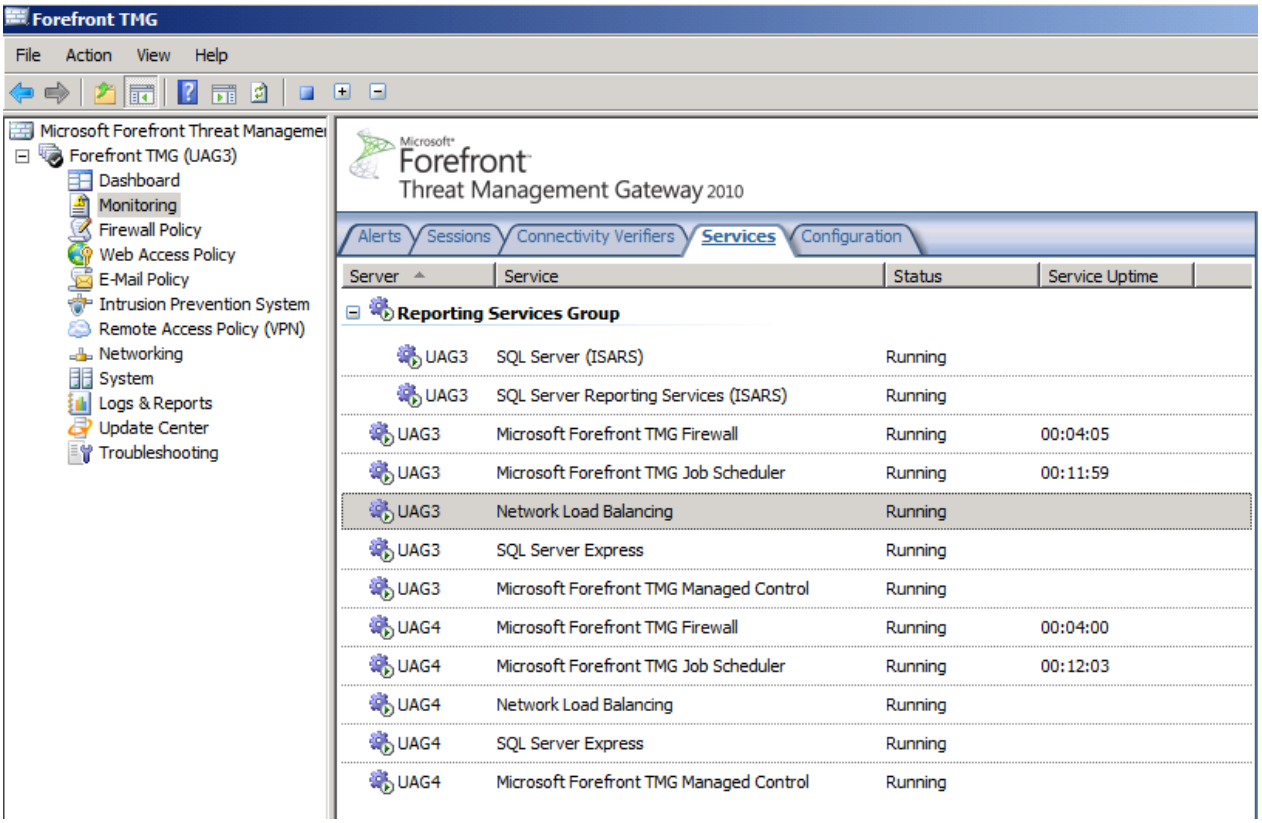

Figure 8: NLB is running on the TMG Server

After you have checked the successful NLB implementation it is now time to enable the integrated NLB for the Portal trunk in the Forefront UAG management console.

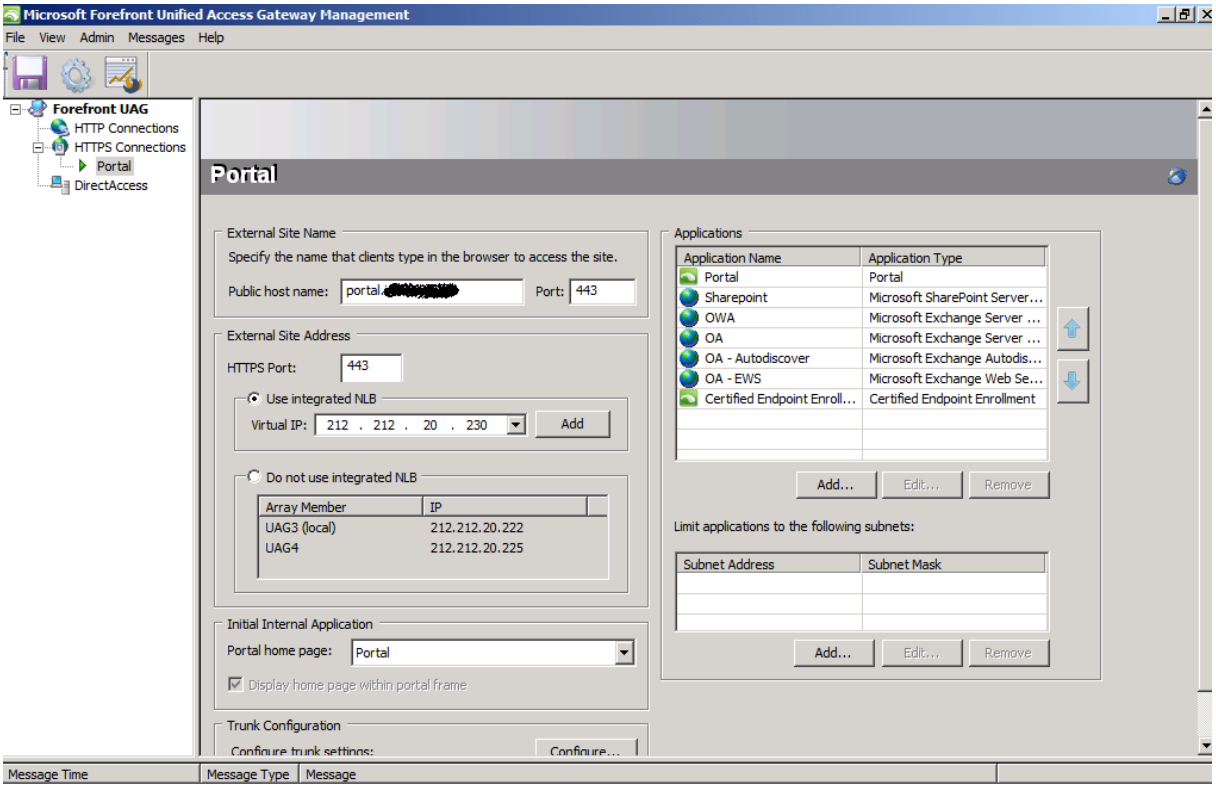

Figure 9: Use integrated NLB for the UAG portal trunk

Save and activate the configuration in the Forefront UAG management console.

NLB operations

Windows NLB provides some operation modes which can be configured with the Forefront UAG Web Monitor as shown in the following screenshot.

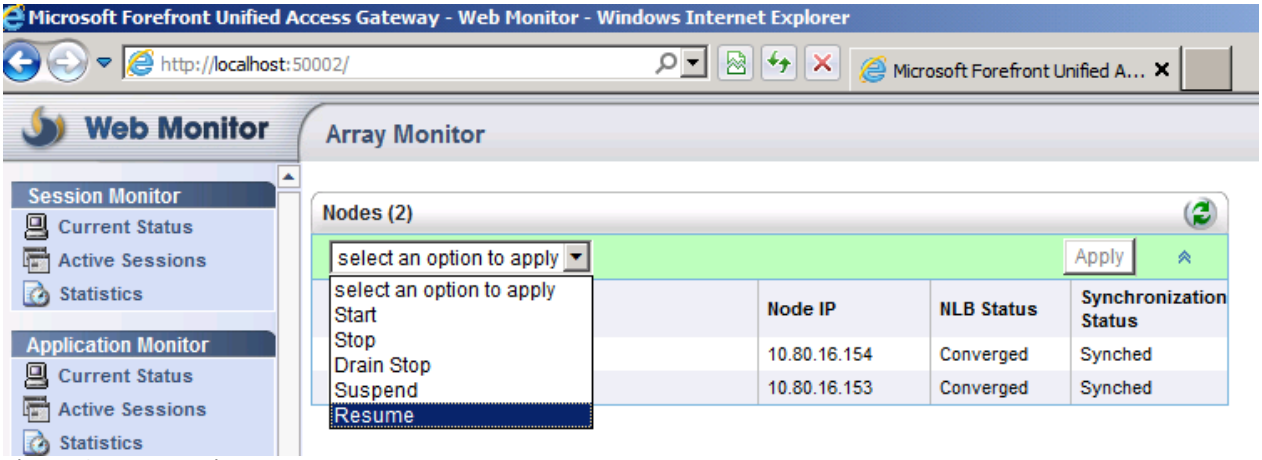

Figure 10: NLB operations

Start

The start command can be used after a stop or suspend command. It restarts NLB operations, but it does not enable the use of cluster control commands which have been disabled by a previous suspend command

Stop

The Stop command stops NLB on the host but does not affect the other NLB cluster control commands.

Drain Stop

Drain disables new traffic handling for the NLB rule that contains the specified port in the port range. New connections to the specified NLB hosts are not allowed, but all active connections are maintained

Suspend

The suspend command stops NLB on the host and suspends all NLB cluster control commands on the host.

Resume

If you want to resume cluster operations on all NLB cluster hosts, click Resume in the Forefront UAG Web Monitor.

Conclusion

In this second article configured the Forefront UAG array with NLB (Network Load Balancing) to provide high availability.

Related links

Array deployment guide
http://technet.microsoft.com/en-us/library/dd857305.aspx
Configuring NLB for a Forefront UAG DirectAccess array
http://technet.microsoft.com/en-us/library/ee191502.aspx
Configuring NLB for a Forefront UAG array
http://technet.microsoft.com/en-us/library/dd903059.aspx
UAG Array and Network Load Balancing
http://blogs.technet.com/b/edgeaccessblog/archive/2009/06/29/array-and-network-load-balancing.aspx
Microsoft Forefront UAG – Overview of Microsoft Forefront UAG
http://www.isaserver.org/tutorials/Microsoft-Forefront-UAG-Overview-Microsoft-Forefront-UAG.html
Forefront UAG technical overview
http://technet.microsoft.com/en-us/library/ee690443.aspx