Blaser mDNS Repeater

Version 1.0

Introduction

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For the latest information, please see http://www.blaser.us/software/mDNS/

Abstract

This introduction to the Blaser Software mDNS Repeater provides a basic understanding of the system, its intent and purpose and the value that can be derived by using the program. In addition, this introduction is designed to provide its audience with the ability to explore the full documentation set in a meaningful context in order to realize maximum benefit when implementing the software.

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Blaser Software

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Executive Summary

The **Blaser mDNS Repeater** is a Windows service that will bind to multiple IP addresses on a single system; listening for and repeating mDNS (Apple Bonjour) packets and traffic between different VLANs associated to the network card on the computer. This enables services between VLANs such as AirPlay, AirPrint and more while maintaining the integrity and security between VLANs in the corporate or educational environment.

For more information and to download a fully-functioning demo, please visit the **Blaser mDNS Repeater** website at http://www.blaser.us/software/mDNS/

Introduction

This document provides the information needed to install and use Blaser Software's **Blaser mDNS Repeater**.

Who Should Read This Document

This introduction is intended for audiences who are installing the **Blaser mDNS Repeater** or make decisions in the planning, development, deployment, or operational aspects of the application in their IT infrastructure. The document aims to educate the audience sufficiently to help determine what value can be derived from the **Blaser mDNS Repeater in** their environment.

Approach & Design Goals

Blaser mDNS Repeater was designed to enable Apple AirPlay and AirPrint services between network VLANs. **Blaser mDNS Repeater** is a Windows service that can run on a Windows server or workstation computer that has access to multiple VLANs.

Benefits

The **Blaser mDNS Repeater** is a small program that runs as a Windows Service. Once configured **Blaser mDNS Repeater** will function to provide a bridge between mDNS (Bonjour) packets on different network VLANS. A VLAN is a group of computers in a switched network that is logically segmented (by function, division, etc.) without regard to the physical locations of the users or devices. VLANs have the same attributes as physical LANs, but with VLANS, you can connect computers together even if they are not physically located on the same LAN segment.

VLANs can also be considered broadcast domains. Broadcast packets, such as mDNS or Bonjour packets on a VLAN are only forwarded to computers within the same VLAN since each VLAN is considered to be a logical network.

Blaser mDNS Repeater can be configured to bridge the transmission of mDNS or Bonjour packets between VLANS, which maintains the integrity of the VLAN but can also enable additional functionality such as Apple AirPlay, AirDrop and AirPrint between VLANs. This functionality is ideal in the new business or education workplace.

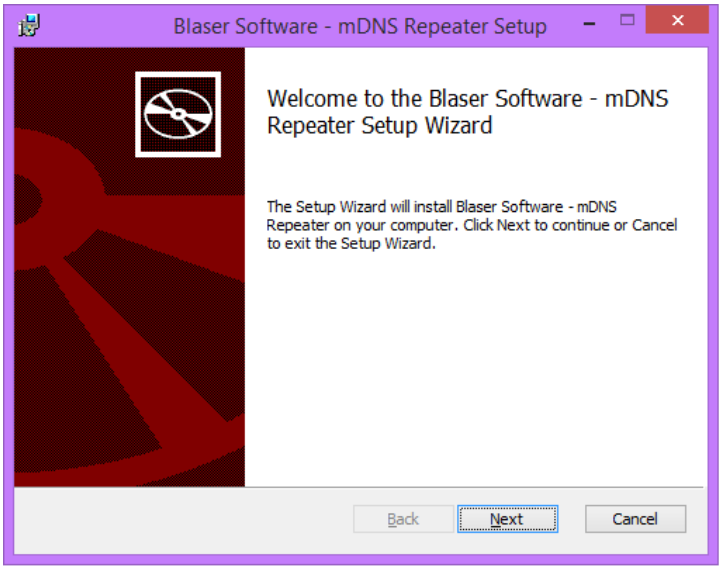
Blaser mDNS Repeater simplifies Apple TV and AirPlay in the enterprise. Users want their iPhones and iPads to work and communicate with other resources on the network. That means dealing with Apple's "Bonjour" protocol and mDNS. Bonjour network traffic is constrained within single VLANs. How do you make that Apple TV or printer on one VLAN work with iPads on another? Blaser Software's mDNS Repeater is a scalable workaround to make this a reality - and it's available at a cost that is practical.

Licensing available in any quantity: as little as one or as many as a site license. Volume licensing pricing can be negotiated via sales@blaser.us

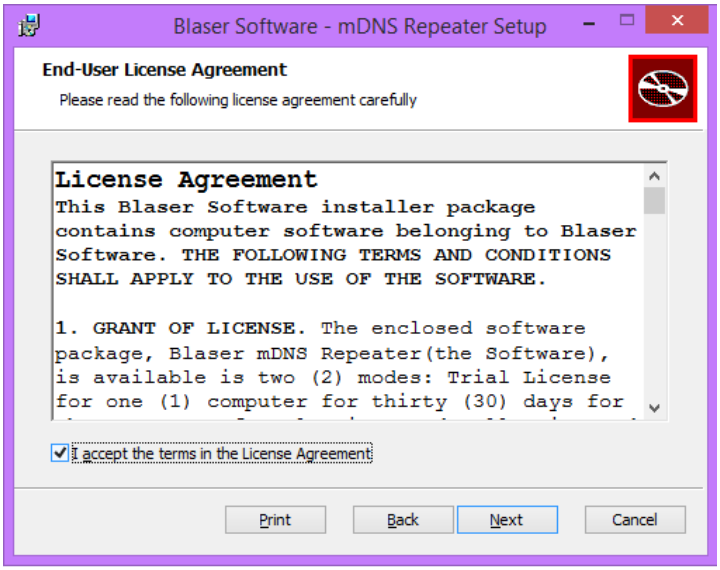
Installation

The steps below will outline the installation and configuration of the Blaser mDNS Repeater.

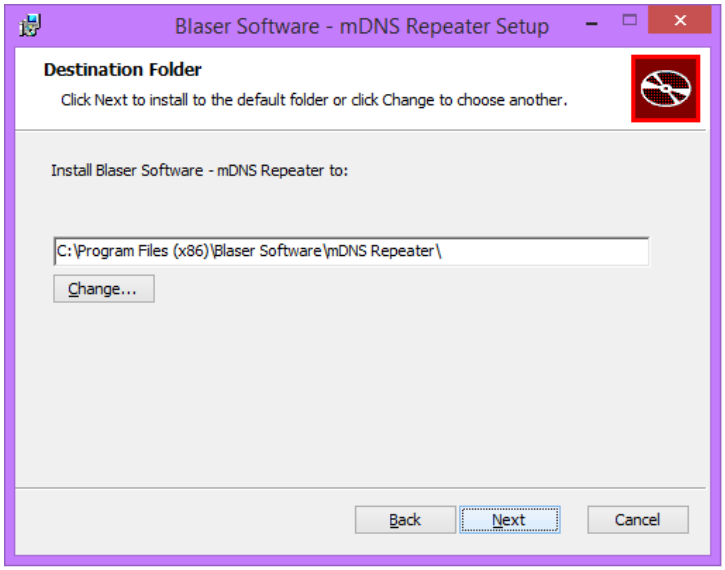
1. Download and execute the Blaser mDNS Repeater installer.



2. Accept the terms of the license agreement.

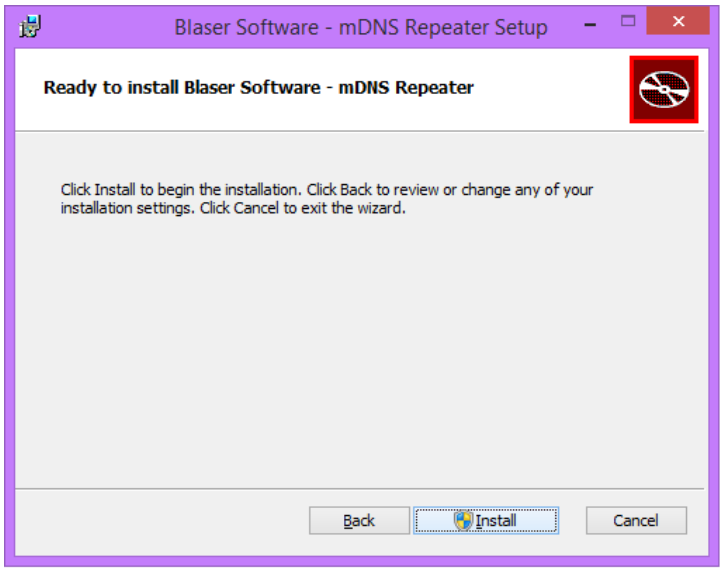


3. Select the installation folder.

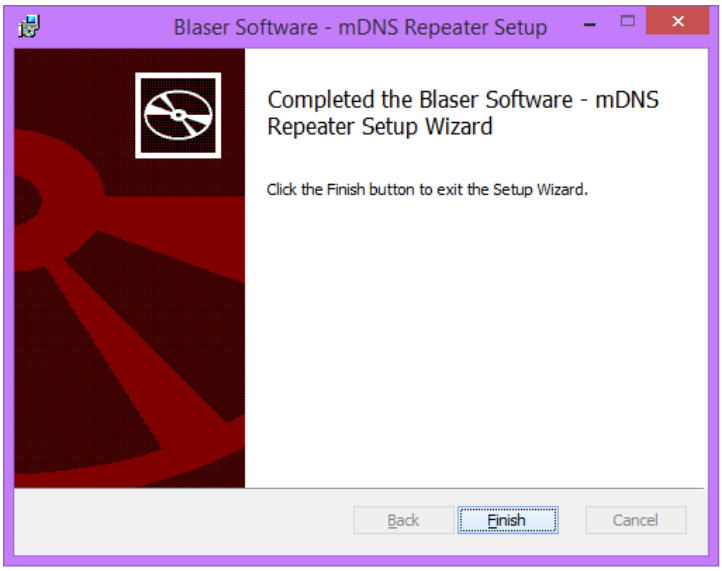


4. Click **Install** to install the Blaser mDNS Repeater service and configurator program.

   When you install the Blaser mDNS Repeater, mDNS Configurator is installed as well. This companion application establishes the basic settings of the mDNS Repeater Service.

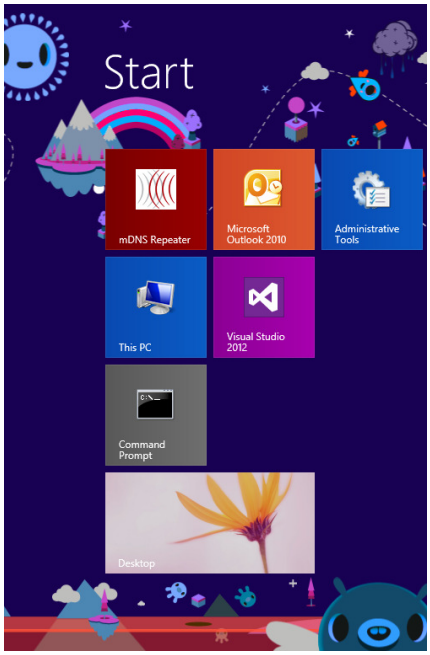


5. When the installation has completed, click **Finish**.

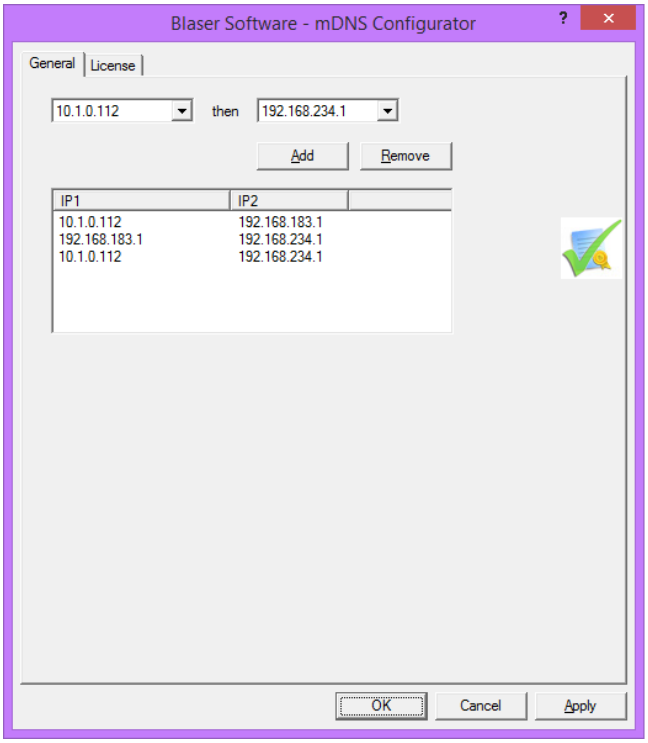


Configuration

After installation, begin by configuring the **mDNS Service**. To do this, start the **mDNS Server Configurator** via the Start Menu:
Start,
All Programs,
mDNS Configurator



General



This tab allows you set the mDNS packet repeating options.

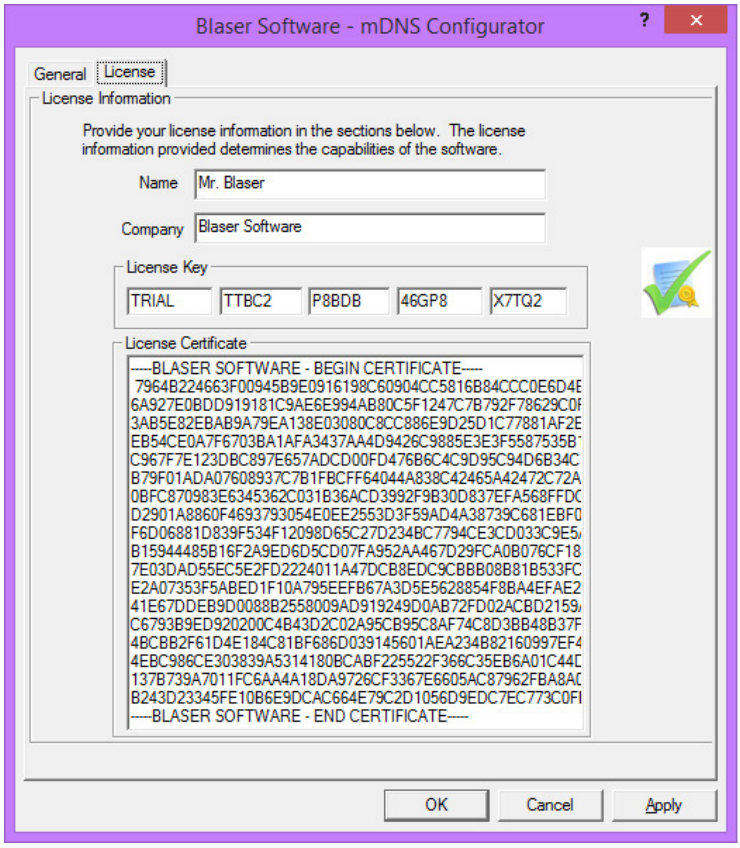
Each pulldown control contains the list of IP addresses that are bound to your network adapters(s) in your system. The first pulldown control is the source network; the second pulldown control is the destination network.

In this example, we want to repeat mDNS packets from the network connected to **10.1.0.112** to the network connected to **192.168.234.1.** This is a one-way repeat.

To have mDNS packets move between these two networks in both directions, you would also have to add an entry in the reverse; that is to make the source **192.168.234.1** and the destination **10.1.0.112.**

The mDNS repeater has logic built-in to prevent itself from repeating packets that are self-generated which could occur as the network list relationships become more complex.

License



On this tab, you can enter your license information for the software.

Name

Enter the name of the licensee.

Company

The company or business entity that has licensed the software.

License Key

The 25-character alpha-numeric license key.

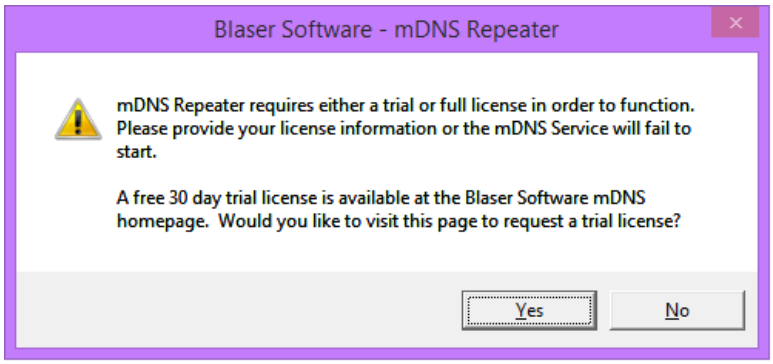
License Certificate

The license certificate that corresponds to the license key entered.

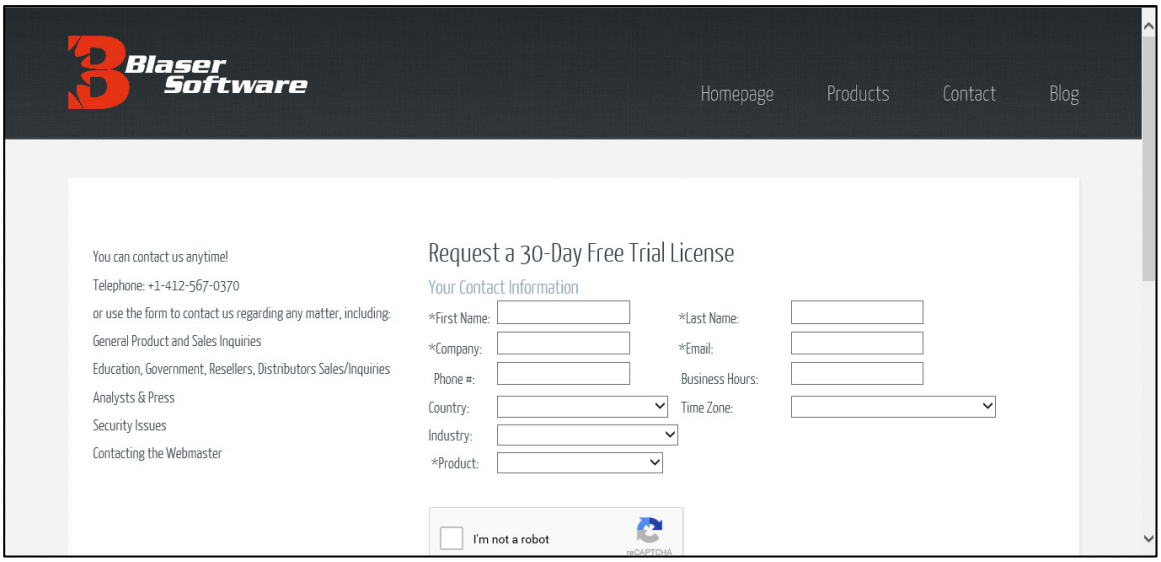
The combination of these two pieces determines the capabilities of the mDNS system.

If the license information is correct, a green check will appear on the right side of the dialog box.

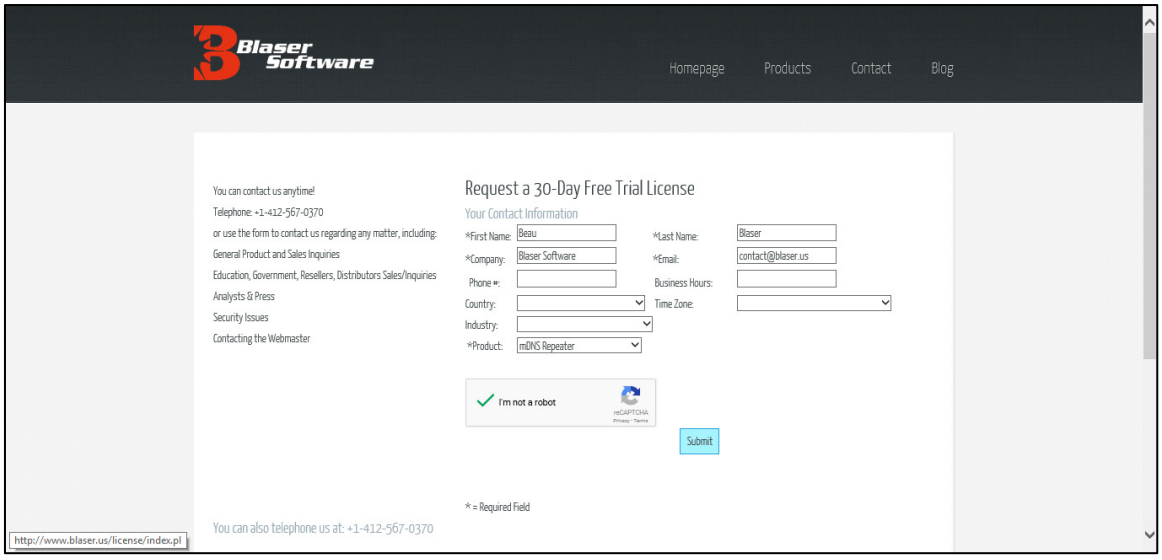
If you do not have a license file loaded, the following message will appear:



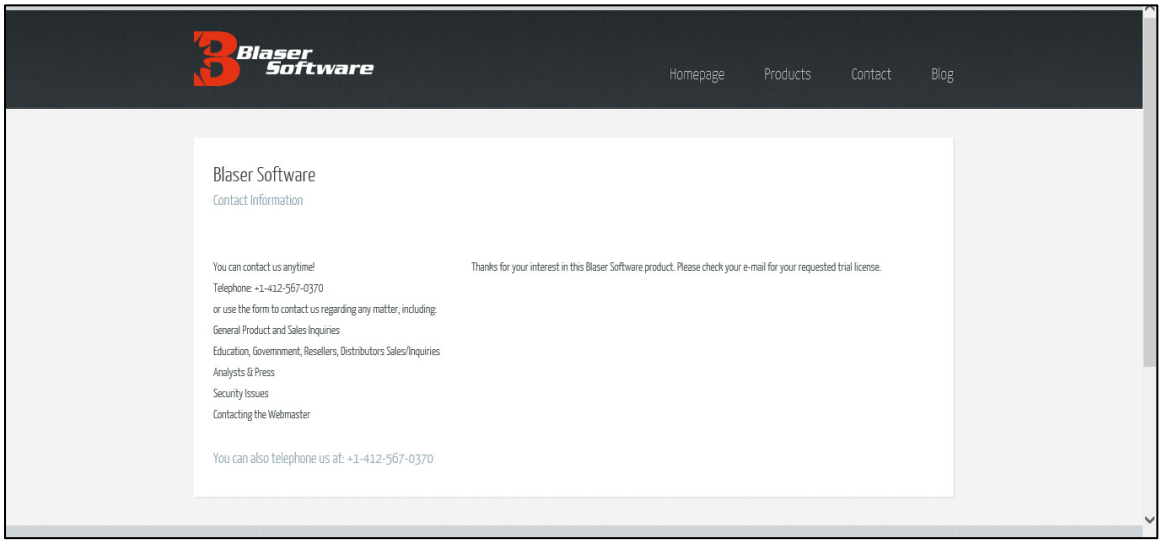
To acquire a 30-day trial license for the mDNS Repeater, visit the Blaser Software licensing homepage at http://www.blaser.us/license/



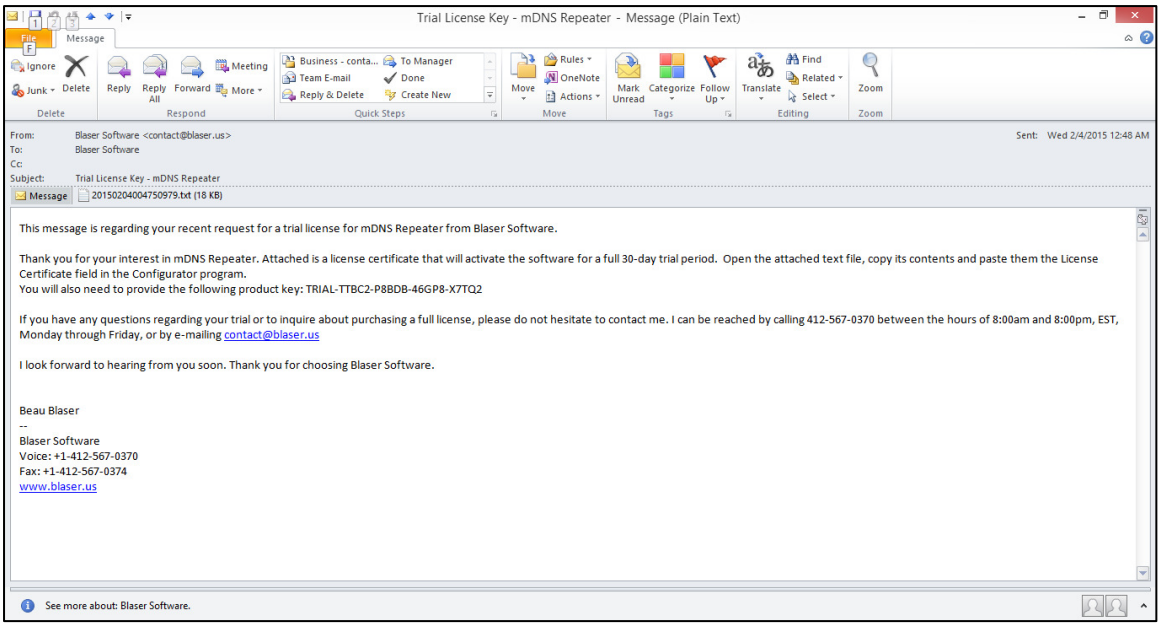
1. Complete the trial license request form to receive a trial license key and certificate
2. Select **mDNS Repeater** from the ***Product*** pulldown list.
3. Click the **Submit** button.



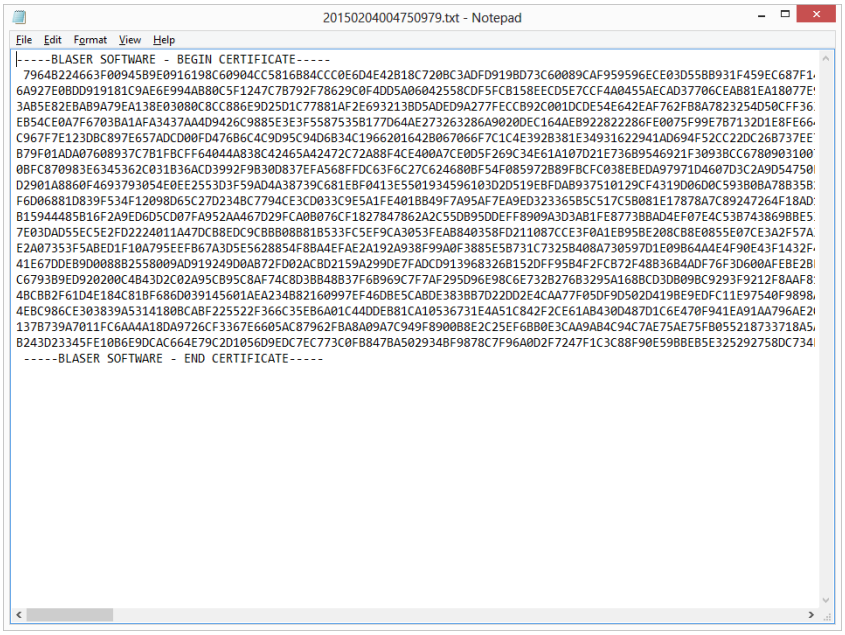
4. After the form has been submitted, you will be instructed to check your e-mail for the trial license key and license certificate.



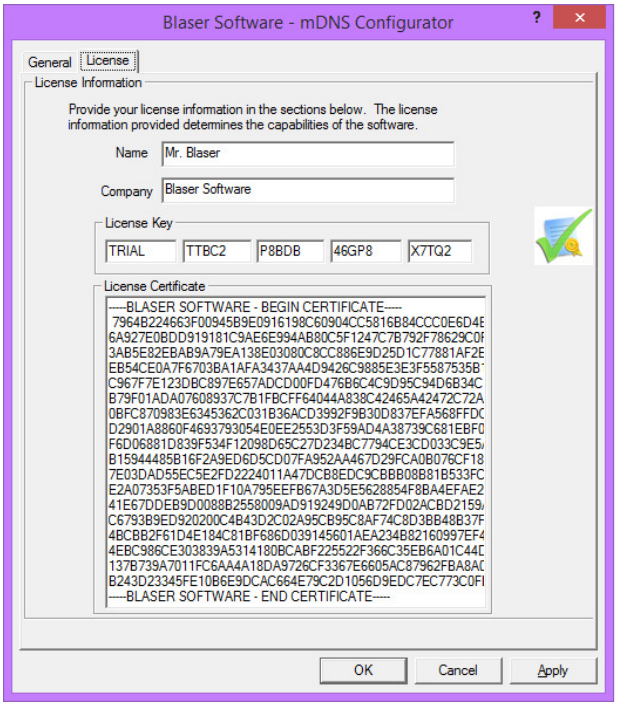
5. In your e-mail, look for a message from **contact@blaser.us** which contains a message regarding your **Trial License Key – mDNS Repeater**
6. The body of the e-mail will contain the 25-character license key and the license certificate will be attached to the e-mail message.



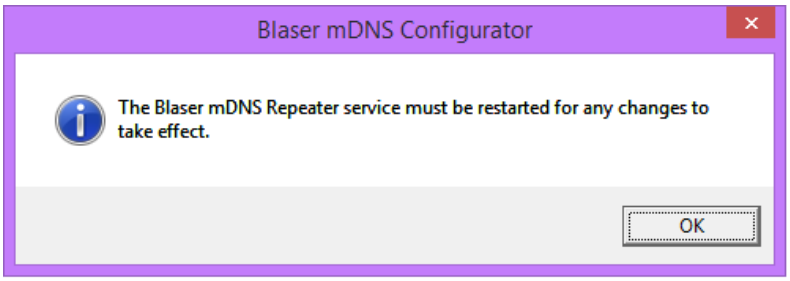
7. Open the e-mail attachment containing the license certificate. **Select All**, and **Copy** the contents of the certificate to the Windows Clipboard.



8. Go back to the **mDNS Configurator** and click on the **License** tab.
9. Input the 25-character **License Key** into the corresponding fields.
10. Paste (**Ctrl+V**) the **License Certificate** into the License Certificate box.
11. Click **Apply** to apply the configuration details, to load the license file, and to check it for validity.



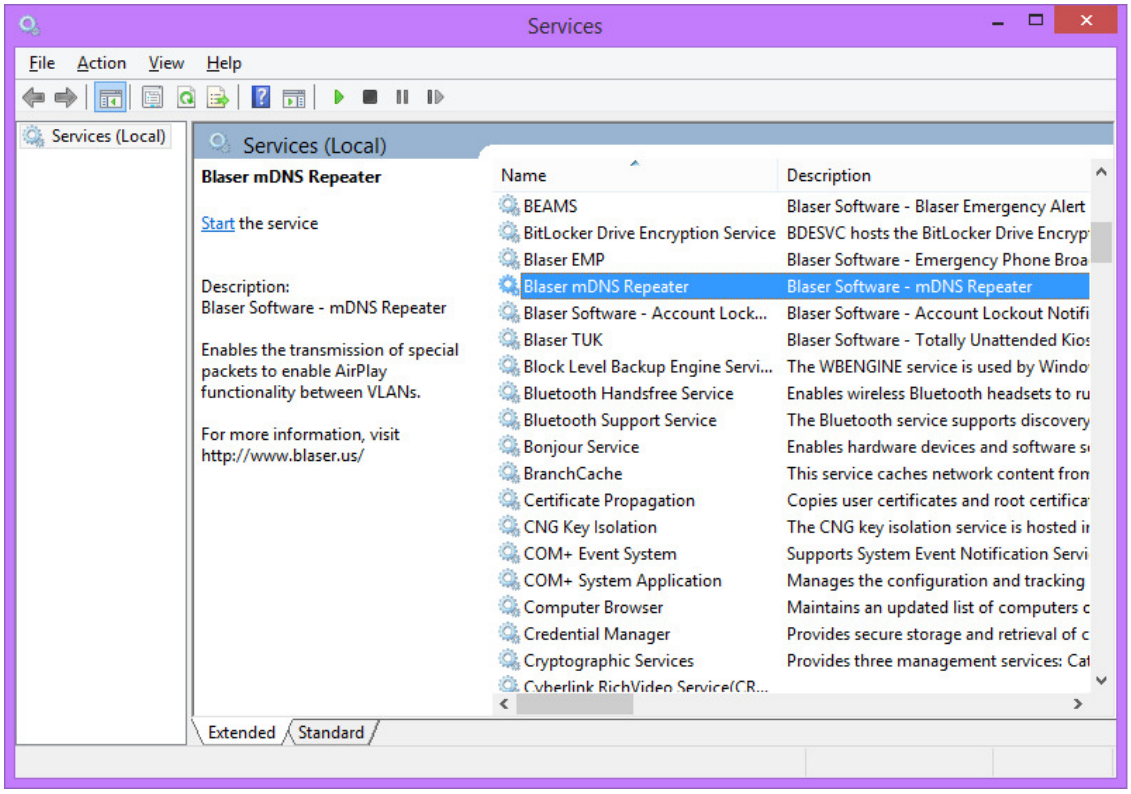
When you have finished establishing your settings, click the **OK** button and you will see the following dialog:



The **mDNS Repeater** service loads it settings from the registry at startup. For any new changes to take effect, the **mDNS Repeater** service must be restarted.

To do this, go to: **Control Panel, Administrative Tools, Services**

Find and ***Restart*** (or ***Start*** if it not running) the service named **Blaser mDNS Repeater**



Network Adapter Configuration

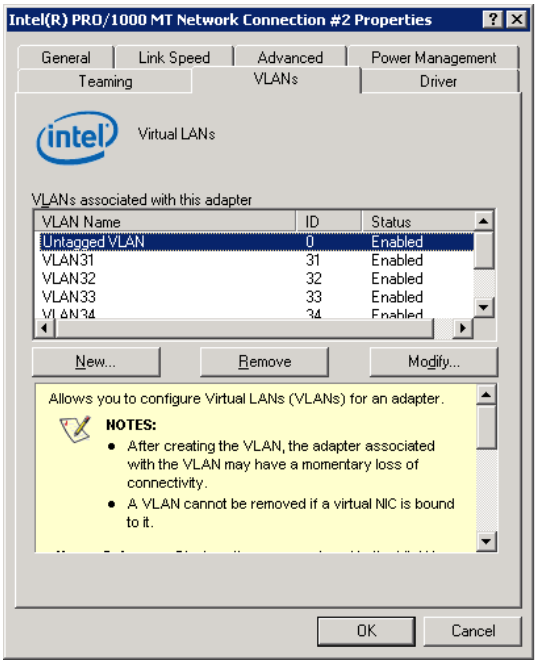
The Blaser **mDNS Repeater** service relies on your computer's network configuration in order to facilitate in the operation of repeating mDNS/Bonjour packets between physical or virtual (VLAN) networks.

In the following steps, we will look at an Intel Pro 1000 network adapter settings that is connected to a switch trunk port containing several VLAN tags.

1. Go to the Windows Control Panel, and select the properties for the physical network adapter.

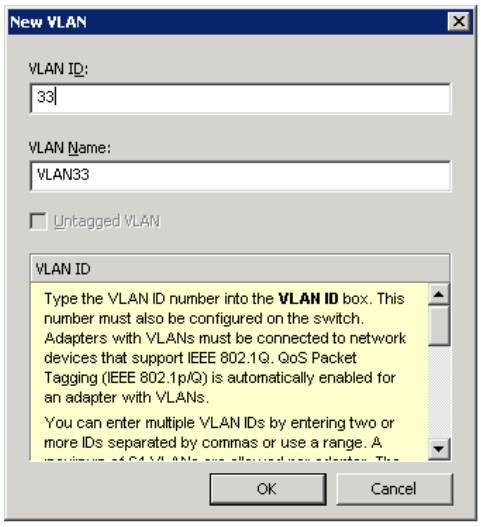
2. Select the **VLANs** tab from the properties dialog. This will display the VLANs associated with the network adapter.

3. Click **New** to associate add a new VLAN to the network adapter.

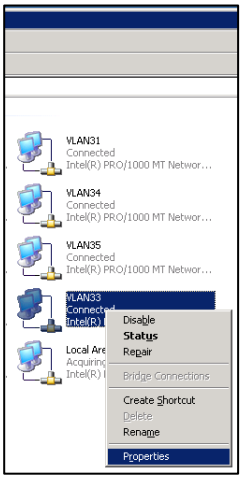


4. In the **VLAN ID** field enter a numeric value for the associated VLAN you wish to bind to the network card. This VLAN must also be configured on the switch.

   The Intel software will permit you to add multiple VLAN IDs by entering two or more IDs separated by commas or by specifying a range.

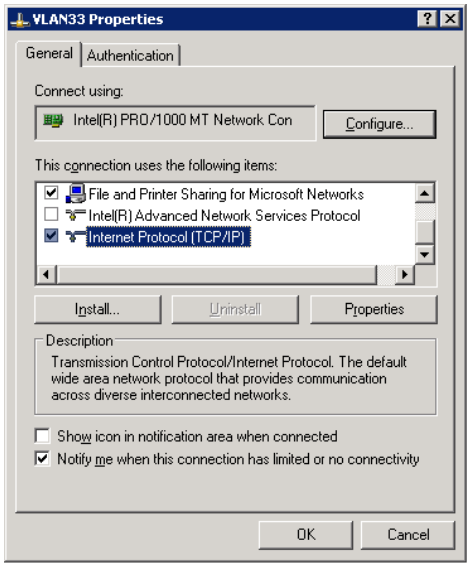


5. After you have created the new VLAN, it will appear as a network adapter in the list of network connections.

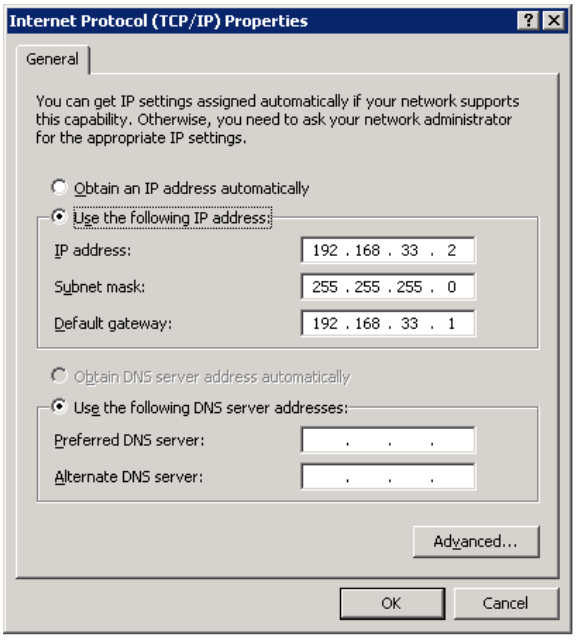


6. Right-click on the new network adapter, and select **Properties**.

7. Double-click the **Internet Protocol (TCP/IP)** protocol from the properties dialog to view and configure the IP address information for this network adapter.

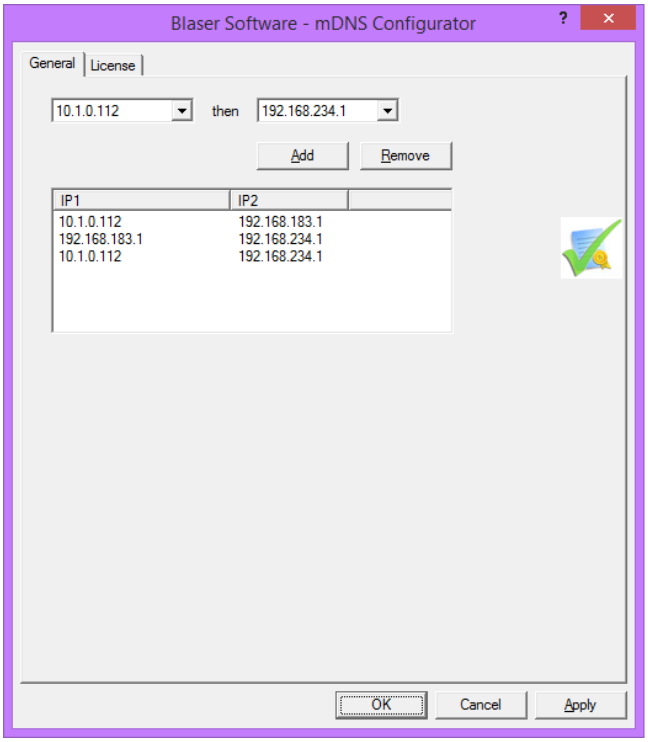


8. Specify a static IP address for this new network adapter that is valid on the VLAN that you have associated with it.
9. Specify the corresponding subnet mask and default gateway.
10. Optionally provide the DNS server information for this network adapter.



Blaser mDNS Repeater does not require the use of DNS in order to function.

11. Launch the **mDNS Configurator** program and take note that the new IP addresses that you have added to your system will appear in the pulldown controls on this configuration dialog.

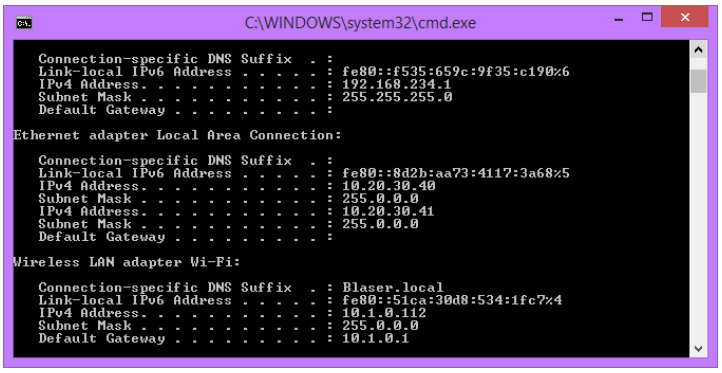


Network Adapter Troubleshooting

In order to troubleshoot IP configuration you can open a command-prompt by running the command **CMD.** In the command-line window, run the ***ipconfig*** program included with Windows:

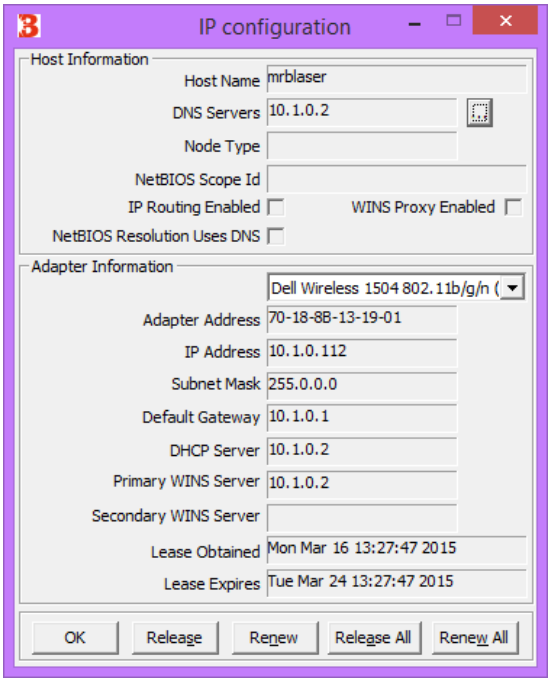
Ipconfig /all

This will display all configuration information, including IP addresses, for network adapters on your system.



Alternatively, you can download and use **Blaser Software's WINIPCFG** utility.

WINIPCFG provides a graphical user interface to the same information that is available from the command-line ***ipconfig*** program. WINIPCFG makes the information easier to read and understand. WINIPCFG can be downloaded from the Blaser Software website at http://www.blaser.us/software/winipcfg/



Summary

The goal of **Blaser Emergency Alert Messaging System** is to enable an organization with a means of notifying individuals in their organizations instantly when it becomes necessary. Companies, schools, hospitals, municipalities and many others need a way to alert people of unfolding situations immediately…BEAMS has the ability to get the message out in a timely fashion and in a way which doesn't rely on people checking for messages, like e-mail.

We encourage you to download a fully-functioning demo of the **Blaser Emergency Alert Messaging System** and try it for yourself. If you have suggestions that would improve the product, or requirements that you need in the product that would make you purchase it, let us know!

Beau Blaser Software is committed to making software that is easy to install, configure and use; and software that is useful! All of our products are coded in C++ using documented standards. Our code is clean (not messy) and we pride ourselves on robust and efficient products that are fast and easy to setup and use.

References

Totally Unattended Kiosk program information and available details can be found at:

http://www.blaser.us/software/beams/

For feedback and information, send e-mail to:

contact@blaser.us

A few words from Beau…

I hope you like the Blaser mDNS Repeater. I started creating this in July 2014 to make some Apple iOS devices work within the office. It has enabled us and other companies and schools to take better advantage of AirPlay in the enterprise – without making major configuration changes or costly network upgrades.

Please give mDNS Repeater a try and let us know what you think. Feedback, criticism, advice and comments are all things that I want! The only way for the products to improve and become more useful is for people to let me know if I'm achieving my goal. I invite you to send me an e-mail and let me know what you think.

Sincerely,

Beau