BlueTOAD Technical Bulletin

The following bulleting outlines the steps that are needed to configure an Ethernet based BlueTOAD unit and properly configure an agencies network to communicate with the BlueTOAD unit(s) in the field and the BlueTOAD server at the Cybercenter. We have supplied a few troubleshooting tips if the data is not getting back to the agencies network or BlueTOAD server.

Agency Network Configuration

The BlueTOAD devices need to communicate via the Internet three ways. In order to accomplish that, the following needs to be completed on the customers end:

1. A connection to the internet.
2. A DNS server that can resolve btserver.trafficcast.com. The IP address of this server must be set in each BlueTOAD device (dns1).
3. Open outbound ports 8010, 123, and 69 in the firewall.

The 3 ports we require outbound access to are for the following functionality:

1. An outbound connection to btserver.trafficcast.com, port 8010. This is for routine data reporting.
2. An outbound connection to north-america.pool.ntp.org, port 123. This is a connection to a time server.
3. An outbound connection to btserver.trafficcast.com, port 69. This is for the device to download updates to its firmware.

BlueTOAD unit configuration

The following information must be supplied to the installer so that it can be set into the device when it is installed. The names in parentheses refer to the names of the settings in the device's configuration program.

1. A unique IP address for each BlueTOAD device (assuming you are using static IP addresses). The devices can also be set to use DHCP to obtain IP addresses.
2. The subnet mask for the subnet the BlueTOAD device is connected to (mask). A typical value would be 255.255.255.0.
3. The gateway IP address for outbound communication from the device (gateway).
4. The IP address of a DNS server that is visible to the device (dns1).

To change the settings of the above, we have a web based tool that makes this simple. The tool can be found and downloaded from the "BlueTOAD Installation and Technical Documents" folder in the Sugarsync account (*WebIP_Configuration_for_EToad.pdf*) or
https://www.sugarsync.com/pf/D7107608_4033947_025501

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Troubleshooting Options

If the devices are not communicating with the server, here are some troubleshooting tips to try. If any of these don't work, there most likely is a problem with the setup.

1. You should be able to ping the device (from inside the firewall) at its IP address.
2. Connect a laptop to the same subnet as the device and try to telnet to btserver.trafficcast.com, port 8010. You should get a connection. Make sure the laptop is using the same DNS server as the one set in the device. Incorrect DNS settings are a common cause of failure to connect.
3. Run the network port tester program to test the connection. This is a Windows .bat file that runs a Java program that tests all of the connections. This program (in a zip file) can be found and downloaded from the "BlueTOAD Installation and Technical Documents" folder in the Sugarsync account (*TCINetworkPortTesterBat.zip*) or https://www.sugarsync.com/pf/D7107608_4033947_071014   Detailed instructions for using the program are included in the zip file. It should be run on the same subnet as the device, *with the same DNS server setting*. Preferably, it should be run at the device location using the device's connection.
4. Recheck the settings in the device by connecting a laptop to the device serial port and using a terminal program (such as PuTTY).
   a. With the laptop connected to the device, reset the device using the red reset button.
   b. When the device starts up, you will see "BTBOOT" and a bunch of text. Hit any key to go to the configuration program. You should see a prompt like ">". Type >**showconfig** to see the device ID, IP address type, and MAC address of the device.
   c. Check the each parameter by typing >**set** <parameter> , where <parameter> is iptype, ipaddr, mask, gateway, or dns1.
   d. Set a parameter by typing >**set**