Technical Bulletin

BlueTOAD Technical Bulletin

Ethernet Connection to BlueTOAD

Field Service Bulletin Number	TCI-FSB-ET-2011-01
Date Issued	14 September 2011
TrafficCast Product Impact	Ethernet BlueTOAD
Product Version Impact	All Ethernet BlueTOAD
Bulletin Topic	Network configuration Network time protocol access
Bulletin Type	Operation / configuration / interoperability
TrafficCast product information source that will be updated with this information	Pre-sales information Interoperability Network compatibility
Bulletin Purpose	This bulletin will provide information concerning the options available for obtaining time synchronization for the Ethernet BlueTOAD as well as configuration information needed to support the Ethernet version of BlueTOAD. 1. External NTP Server (outside firewall) 2. Internal NTP Server (inside firewall) The type of Ethernet backhaul from the traffic signaling cabinet will be covered (i.e. fiber optic, twisted pair, wireless, mesh networks).

The following information is needed for the proper operation of Ethernet BlueTOAD:

Port (outbound only)	Description
69	Remote firmware upgrade
123	Network time protocol access
8010	Connection to Traffic for upload of MAC data

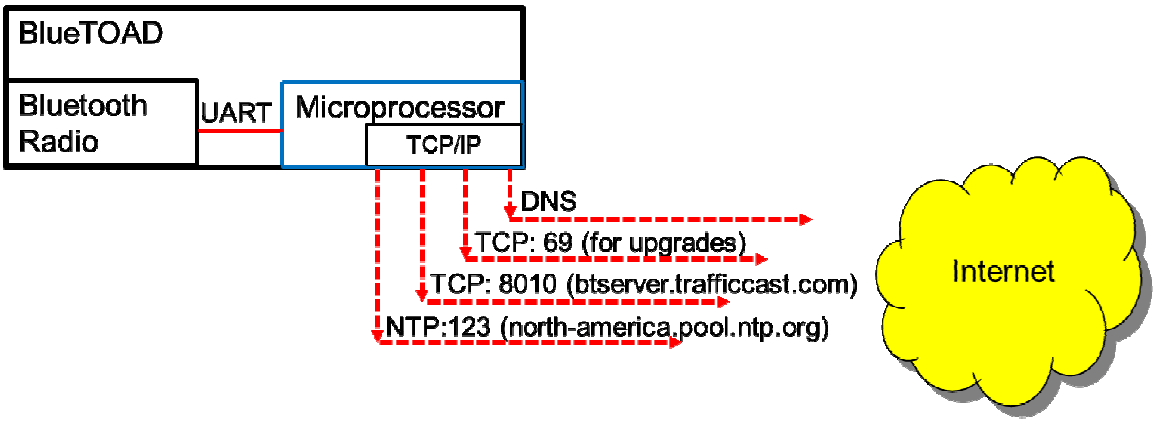
IP configuration	Description
IP address	Dedicated IP address for the specific BlueTOAD
Mask	255.255.255.0 (Default)
Gateway	Network gateway address
DNS	Domain name server – can be internal or external

The BlueTOAD unit detects Bluetooth signals and records their MAC addresses and then time stamps when the MAC was detected. The BlueTOAD devices detect Bluetooth MAC addresses and time stamps when the MAC was detected. All calculations are based off of time (i.e. BlueTOAD as a system measures travel time and calculate speed) and it is important that all devices are synchronized with a common reference. The Ethernet BlueTOAD uses a Network Time Protocol (NTP) as the source for time synchronization.

It is important to note that the BlueTOAD are outbound only devices. TrafficCast severs do not initiate any communication protocols with BlueTOAD. In the event that firmware upgrades are needed, the BlueTOAD will initiate the request and port 69 will only be active during the firmware upload, after which the connection is closed.

Option 1 (default)

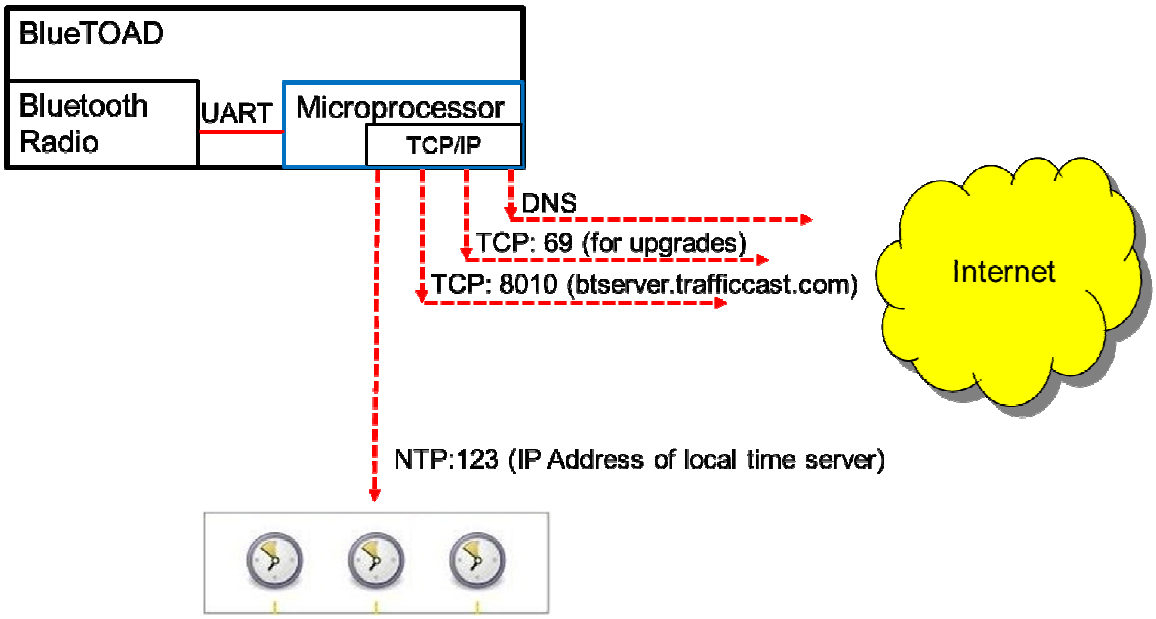
Network connection is available at the traffic signaling cabinet. The shared medium is either twisted pair or fiber optic. The Ethernet BlueTOAD is granted outbound access via ports 123, 8010, and 69.



Ethernet BlueTOAD uses port 123 to access the north-america.pool.ntp.org time server. Port 8010 is used to transport the collect MAC addresses and their respective time stamps. Port 69 is used for firmware upgrades (as needed). It is important that a valid DNS address is used such that the domain name can be recognized.

Option 2

In the event that port 123 is closed and access to the north-america time protocol server is not permitted, a local time server (within the firewall) can be used.



Option 3 (Custom Configuration – Consult with TrafficCast)

There may times when the Ethernet BlueTOADs will be installed at locations that employ a wireless LAN as a network configuration design. In these cases, please inform TrafficCast of the type of configuration (i.e. hub or star) as well as whether it utilized a mesh topology.

While Ethernet BlueTOAD will function in a wireless LAN network, there are potential issues such as latency and security that do necessitate further investigation prior to installation.