

## The BB60C/A Client-Server Demo Application

In this demonstration we show how one can utilize the the BB60 API to create a software framework that communicates with the BB60 remotely. This document will outline the setup, approach, and steps needed to understand the demonstration fully.

This demonstration includes an open source client/server API which extends the current API to work over TCP/IP or LAN, and includes a custom GUI front end specifically designed to work with the client/server API. All materials needed to run the demo are also included in this folder.

### The Setup

First lets look at the setup of a typical application interfacing the BB60 API. The entire setup takes place on one PC. The BB60 is connected to the PC running the application software. The application software developed by the customer is interfacing the BB60 API to manage the BB60.

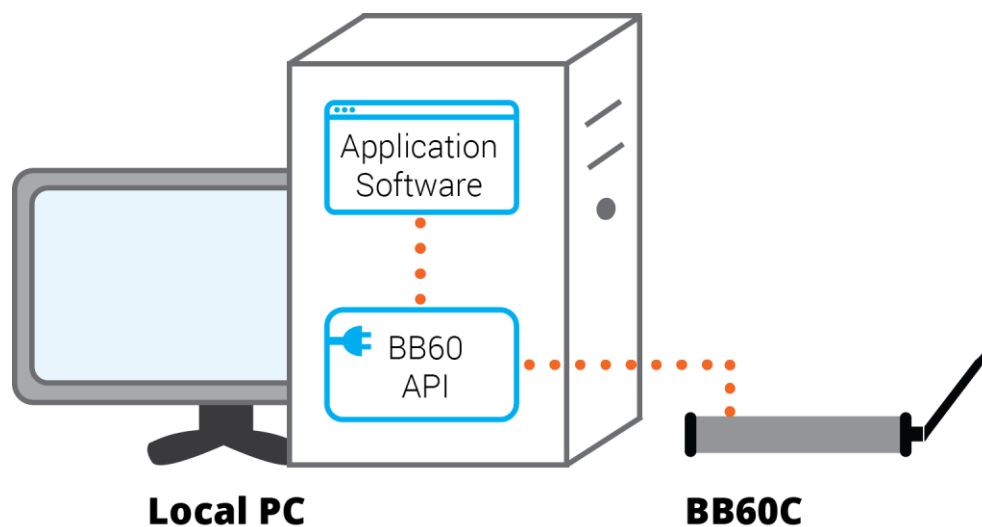


Figure 1: Typical BB60 Application Setup

To extend this idea to remote operation we need to add a few more software elements. Below you can see the setup of an application using the client/server API to communicate with a BB60 on a remote PC.

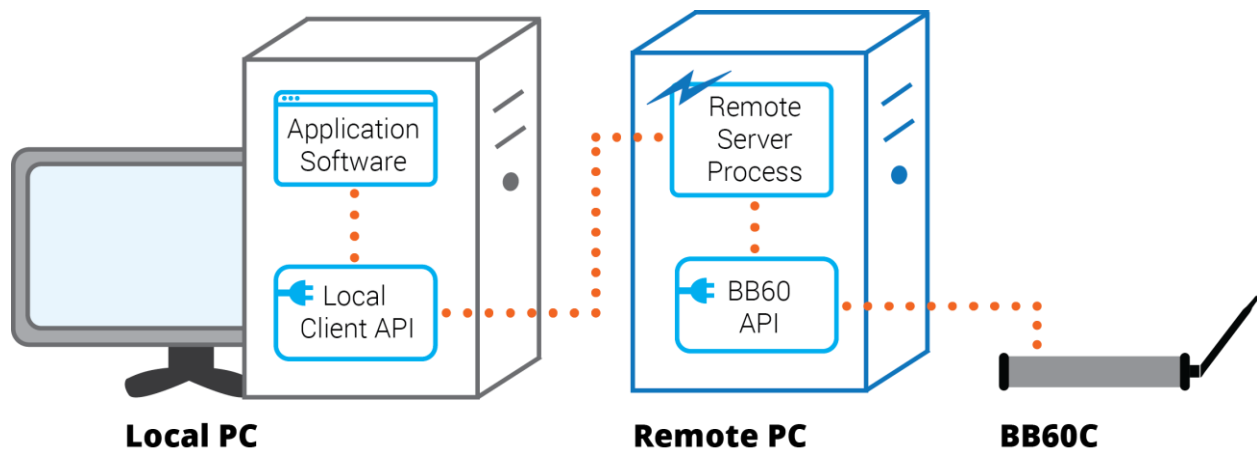


Figure 2: Application setup using a client/server style API

Setting up the BB60 to operate remotely involves extending the API to communicate over a network or LAN. In this demo we extend the API to operate over TCP/IP or LAN connections. We accomplished this by adding an additional abstraction layer in the form of a client-server style API. The client-server API is two separate software projects. The server is a console application which runs on a remote PC and communicates directly to the BB60 through our standard API. The client is a thin API which mimics our standard API and communicates directly to the server, passing relevant information back and forth. By keeping the client API to essentially a 1-to-1 mapping of our standard API the client-server protocol is simply responsible for message passing between the application software and the standard BB60 API.

## What is Included

This project includes all the necessary software to run and demo the BB60 remotely.

- `bb_api.dll` – The standard BB60A/C API
- `bb_server.exe` – The remote console application
- `bb_client.dll` – The client API
- `src/` folder – Contains the source code for the client and server projects
- `BBAp.exe` – A custom version of our BB60 spectrum analysis software interfacing the local client API
- The remaining DLLs and folders are needed for the `BBAp.exe` to run properly

## How to Setup the Demo

The software demo folder needs to be installed on two compatible PCs. The remote PC needs to be on the same local network as the client PC, on an intranet, or accessible publicly by an IP address. Since the remote PC is communicating with the BB60, the standard BB60 software package needs to be installed, which installs the necessary USB 3.0 drivers for communicating with the BB60. The BB60 software installer can be found on our website at [www.signalhound.com](http://www.signalhound.com).

- 1) Extract the remote demo folder onto the remote and local PC.

- 2) Connect the BB60A/C to the remote PC.
- 3) Launch the bb\_server.exe program. The server should report that it is listening on a port.
- 4) On the local PC, launch BBAp.exe. The application will prompt you for the address of the remote PC. If you are testing the system all on one PC, you can enter 'localhost' into the address.
- 5) If the remote PC is ready, the BB60 attached will be claimed by the server, and will begin communicating with the client. If the remote PC is not ready, or a BB60 is not connected to the remote PC, a warning will be issued. Once you have prepared the remote PC you can use the file menu to try and reconnect to the device.

The BBAp software functions similarly to our main application software. You can view the users manual on our website for more information on how to operate the software.

## Questions

For further questions and assistance, contact Signal Hound at [aj@signalhound.com](mailto:aj@signalhound.com) or call us at 1-800-260-TEST.