



AT Server Quick Start Guide  
for  
InvisiConnect™ Enterprise Server

Revision: B  
Date: October 1, 2007  
Author: Technical Services

## Introduction

Thank you for purchasing Metrotek, Inc.'s InvisiConnect™ Enterprise Server solution!

This installation guide covers the general setup and configuration of the InvisiConnect™ Enterprise Server (InvisiConnect™) solution by Metrotek, Inc. specifically as a Standard AT Modem Server. In this configuration, InvisiConnect™ will intercept AT commands being issued to hardware devices in the field from a software application and send them to Remote Units via the Digital Cellular network.

For example, your Electric Meter in the field normally communicates with its host computer using an analogue phone line. The host computer normally uses an internal modem to issue AT commands to the Meters and in turn the Meters use AT commands to respond to the host computer once a connection is established.

Using the InvisiConnect™ system the AT commands issued by the host computer would be captured by the InvisiConnect software, sent to the Remote CNI, and then passed to the Meter. In this configuration, the requirements for a modem on the host computer and a phone line to the Meter have been eliminated.

This document will help you get started with setting up the software and remote units. If you have any questions regarding the InvisiConnect™ solution, please contact Metrotek Technical Support for assistance. This document also assumes you have knowledge of installing software, are familiar with your version of the Windows® Operating System and have knowledge of its operation. If you do not think you can install this software on your own or make changes to your system or software, please contact your technical support department to assist you.

This document Copyright ©2006 by Metrotek, Inc. and may not be reproduced, in whole or in part without the expressed written consent of Metrotek, Inc. No merchantability is expressed or implied through the use of this document. All rights reserved. For errors, omissions or corrections, please contact Metrotek, Inc., Technical Support at [support@metrotekfl.com](mailto:support@metrotekfl.com).

## Configuring InvisiConnect™

This guide will help you install InvisiConnect™ as a Standard AT Modem Server which is commonly used for applications that communicate with remote devices either directly using cables or indirectly using modems.

1. Enter your external (public) IP address here. This address is the one that is available to public and the CNI.  
Hint: It will not start with 10.x.x.x, 172.16.x.x to 172.31.x.x or 192.168.x.x as these are part of the private addresses set aside for internal networks. Failing to enter the appropriate value here will cause an authentication failure when the CNI contacts the server.
2. Click on the <Add> button in the *IP Configuration and Control* section of InvisiConnect™.

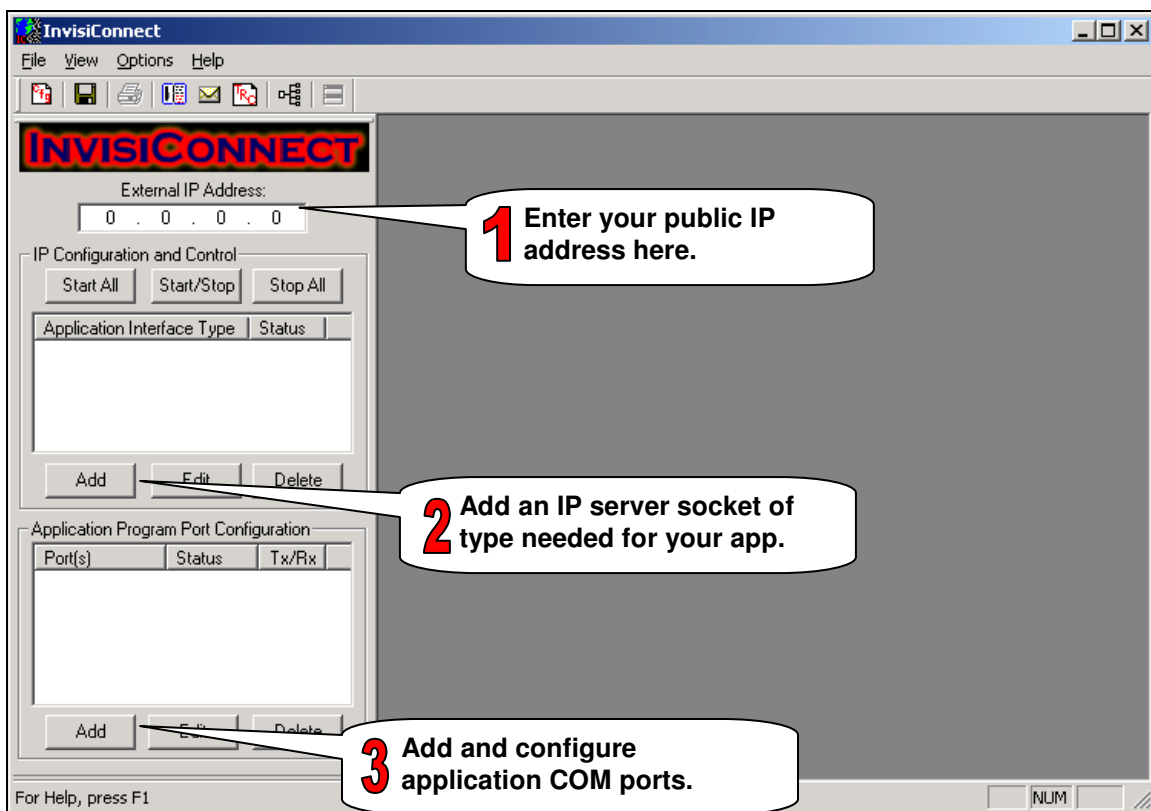


Figure 1 – InvisiConnect™ Configuration - Initial Window

- a. Select the type of connection. In this example we will be using *Standard AT Modem*.
- b. Select a different IP port number if desired. In any case, your network must route traffic (data) on this port to the computer running InvisiConnect™.
- c. Enter a description for the interface. Identifying an interface by entering a description will make it easier when setting up InvisiConnect™. The description you enter will be displayed in the appropriate trace window when it is started.

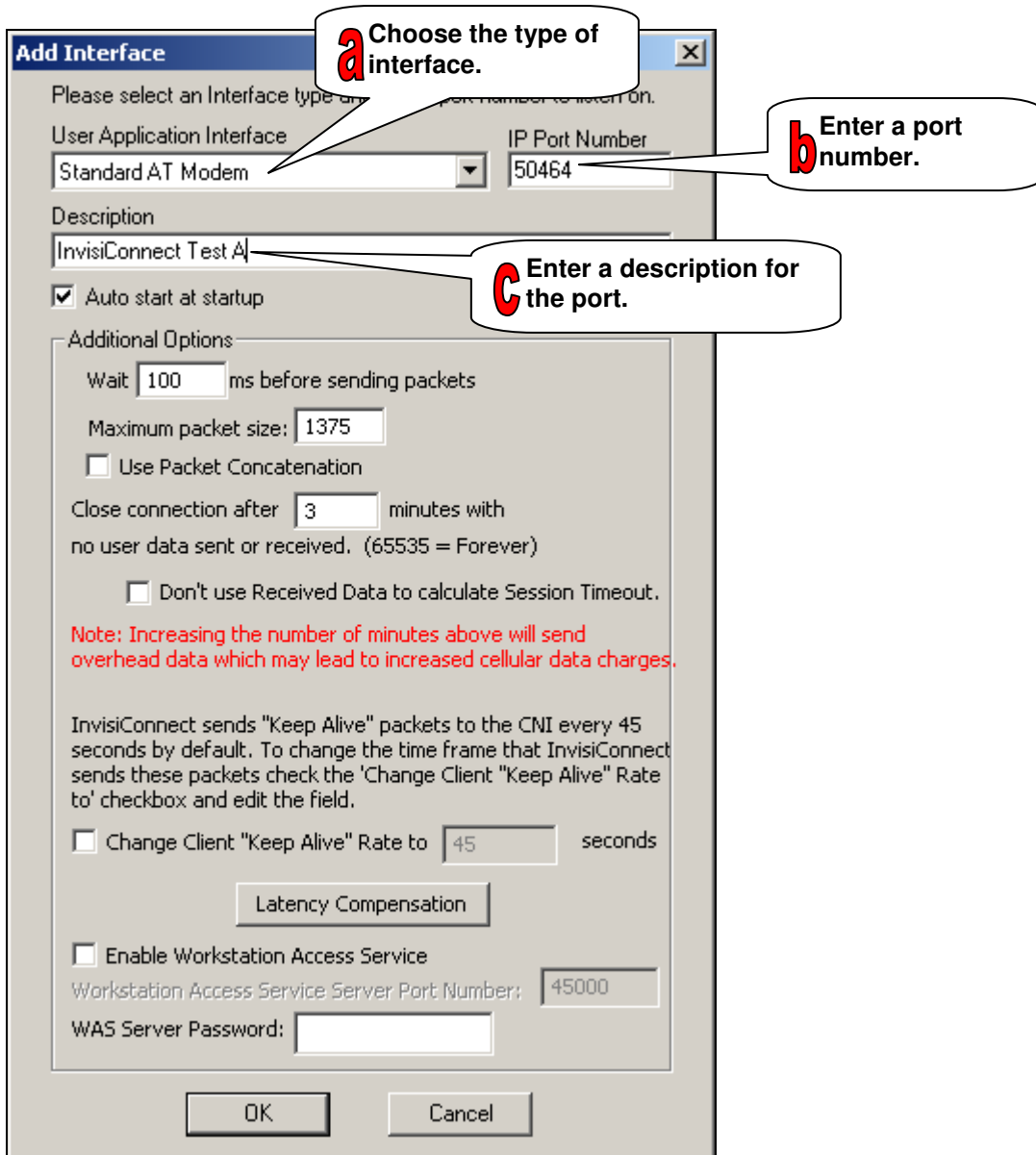


Figure 2 – InvisiConnect™ Configuration – Add Interface

## Configuring COM Ports

This section can be repeated for as many COM ports needed to communicate with your program. Typically one or possibly two COM ports are needed to communicate. You may wish to duplicate the number of physical modems (by adding virtual COM ports) your program had available in InvisiConnect™ to make the new environment closely resemble your previous setup. The number of COM ports (and RUIDs) you can create in this section is limited by your license files, so it is important that you use your license files instead of the default files which will limit InvisiConnect's™ functionality.

1. Click on <Add> in the Application Program Port Configuration section to add a COM (communications) port to InvisiConnect™. Refer to Figure to complete the following steps.
2. Unless you are specifically using a physical modem to communicate between InvisiConnect™ and your program, you need to make sure **Use Hardware Com Port(s)** is unchecked.
3. Select a COM port to use. Do not use a port already in use by hardware! This port must match the COM port in your application. Make sure that your application supports the port number. Some applications will not support ports past COM4.

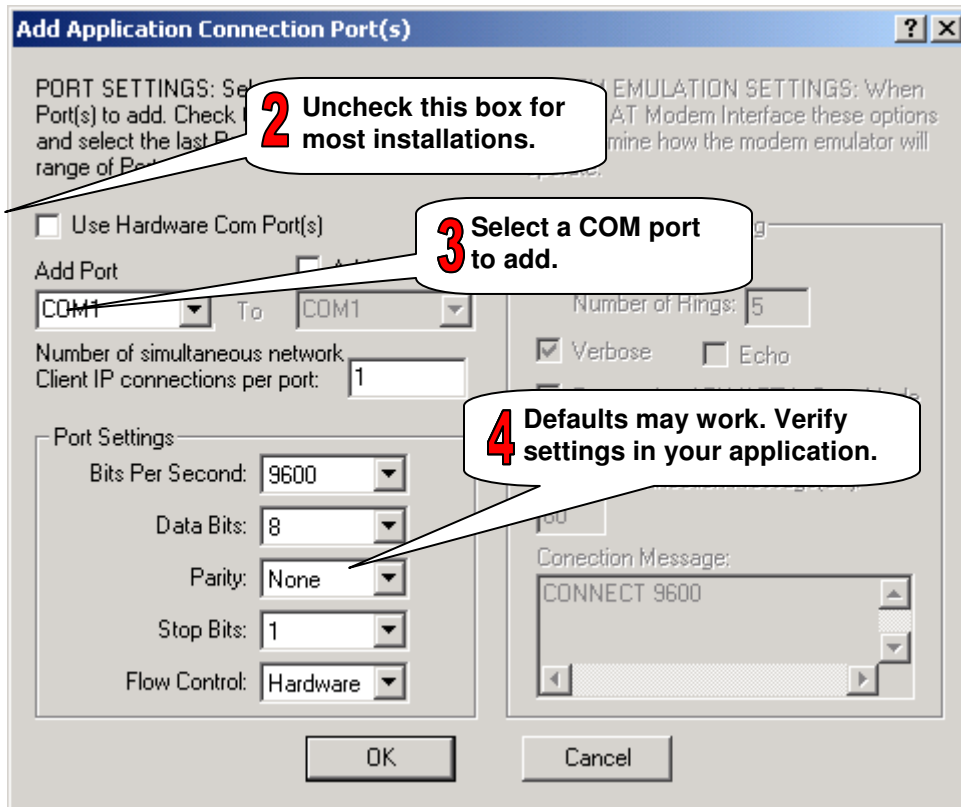


Figure 3 – InvisiConnect™ Configuration – COMs for Applications

4. In the *Port Settings* section, make any adjustments necessary so they match the application settings. Note that these settings are only necessary between the application and InvisiConnect™. Remember, these ports are not used to connect to the device or the CNI.

5. Now you can configure the specific modem settings for this port. Refer to Figure . These options are only available if you chose *Standard AT Modem* for the type of connection. These settings should reflect what your application expects regarding communications. If you have any questions about the AT command set, refer to your application or modem user guide for explanations.
  - a. Auto Answer is on by default and in most cases should remain on. Set the number of “rings” before InvisiConnect™ will “pick up” the line.
  - b. Some applications do not properly interpret Verbose modem results. Uncheck this box to only send decimal values or check it to send text values.
  - c. Some applications do not expect to see the baud rate with the connection message. You can edit this field to remove or change the message.  
Note: changing to or from Verbose mode affects the output.
  - d. Checking Echo will reflect any output back to the application. In most cases, enabling this settings will result in duplicated data being returned because the device will normally send any responses the application is expecting. Refer to your application’s user guide to determine if this setting is necessary.

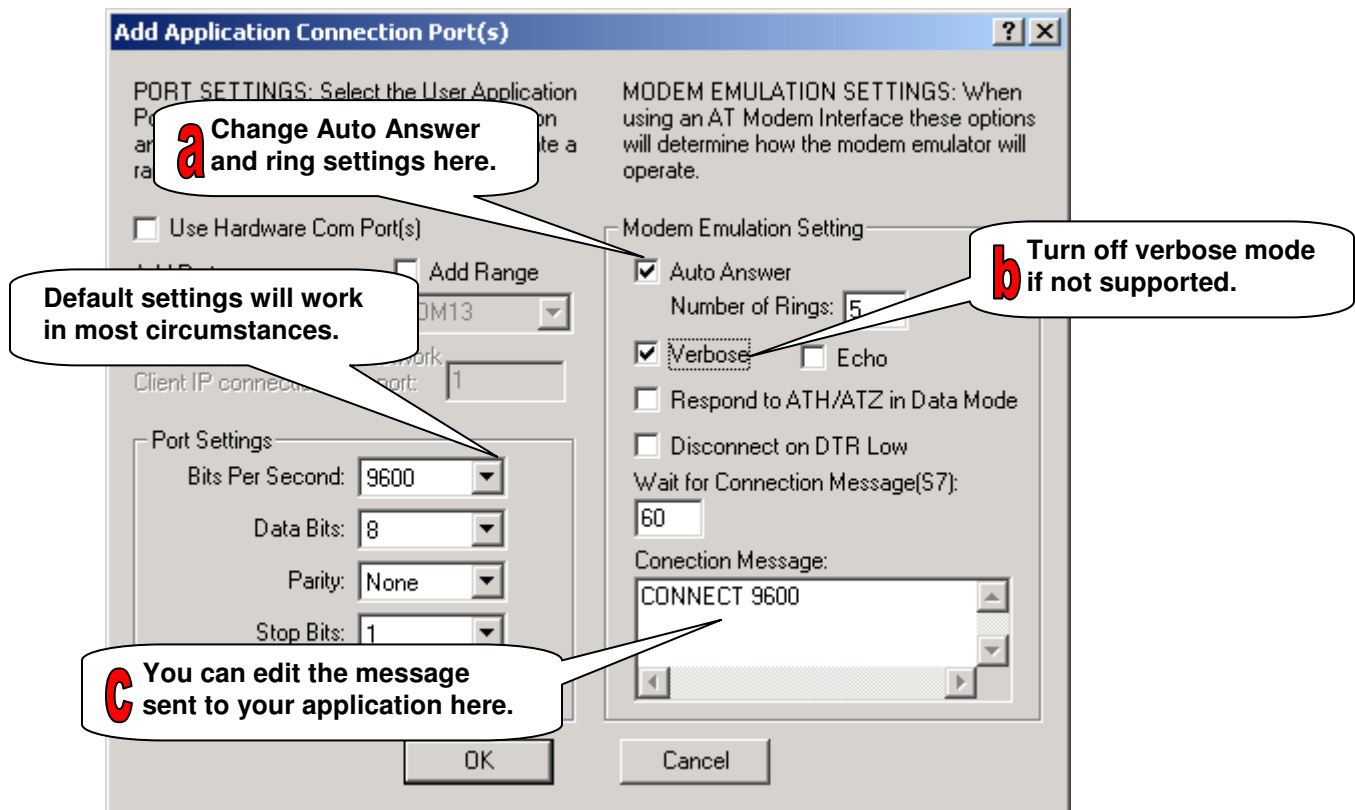


Figure 4 – InvisiConnect™ Configuration – COMs for Applications

6. Once you have completed the changes, click the <OK> button to save the configuration for this port. Repeat these steps to add (or you can edit) more ports.

## Configuring SMS/USSD Options

You will need to configure SMS (Short Message Services) to initiate any communications with the CNI. (Configuring the CNI to accept SMS messages is covered later in this document.) Refer to Figure for configuring SMS.

1. Select SMS/USSD Configuration from the Options menu in InvisiConnect™ to display a settings page similar to Figure .
2. Initially, the checkbox for Enable SMS/USSD is unchecked. Check it to continue configuring the service.
3. There are three options available in the SMS/USSD Send Method section for sending SMS messages to the CNI.

They are described as follows:

- a. Use *SMTP Mail Server* option. This uses a mail server (SMTP) to send the message. If you are using only one carrier, enter the carrier's SMS domain information in the SMS/USSD suffix field, eliminating the need to append the same information in the device configuration.  
  
This option requires the mail server to be configured to accept SMS messages and forward them appropriately. You would populate the fields with the mail settings provided by your mail administrator.
- b. Select *Use Attached Cellular Modem* if you have a cellular modem attached directly to the workstation running InvisiConnect™. The settings you would enter here would come from the modem's setup guide. This method will not require you to enter a carrier's domain suffix information to send messages since there is no message conversion process.
- c. Select *Use Relay Server* to send the messages to a server that will then forward the message to its destination. You would normally enter an internal IP address and port number of the relay server, however you can also use an external IP address and port if the server is not on your network. If the relay server requires a password, you would also enter it in the appropriate field. This method does not require you to enter a carrier's domain suffix information to send messages since there is no message conversion process.

NOTE: Implementing a relay server requires a CNI with special firmware. Contact Metrotek if you need assistance implementing this option.

Metrotek's recommended order of preference is to implement (b) *Use Attached Cellular Modem*, then (c) *Use Relay Server* and finally (a) *Use SMTP Mail Server*.

- d. Enter the IP address and port number of the relay server and a password if required.
  - e. Enter the public IP address for the InvisiConnect™ server here if you are implementing more than one server. This allows each server to globally override the callback IP address for any message sent from it. Entering a server's IP address here will temporarily override the CNI's programmed values allowing it to connect to a different server. Once the call is complete, the CNI will use its default settings unless instructed by another SMS.
4. Click <OK> to accept the settings and return to the main window.

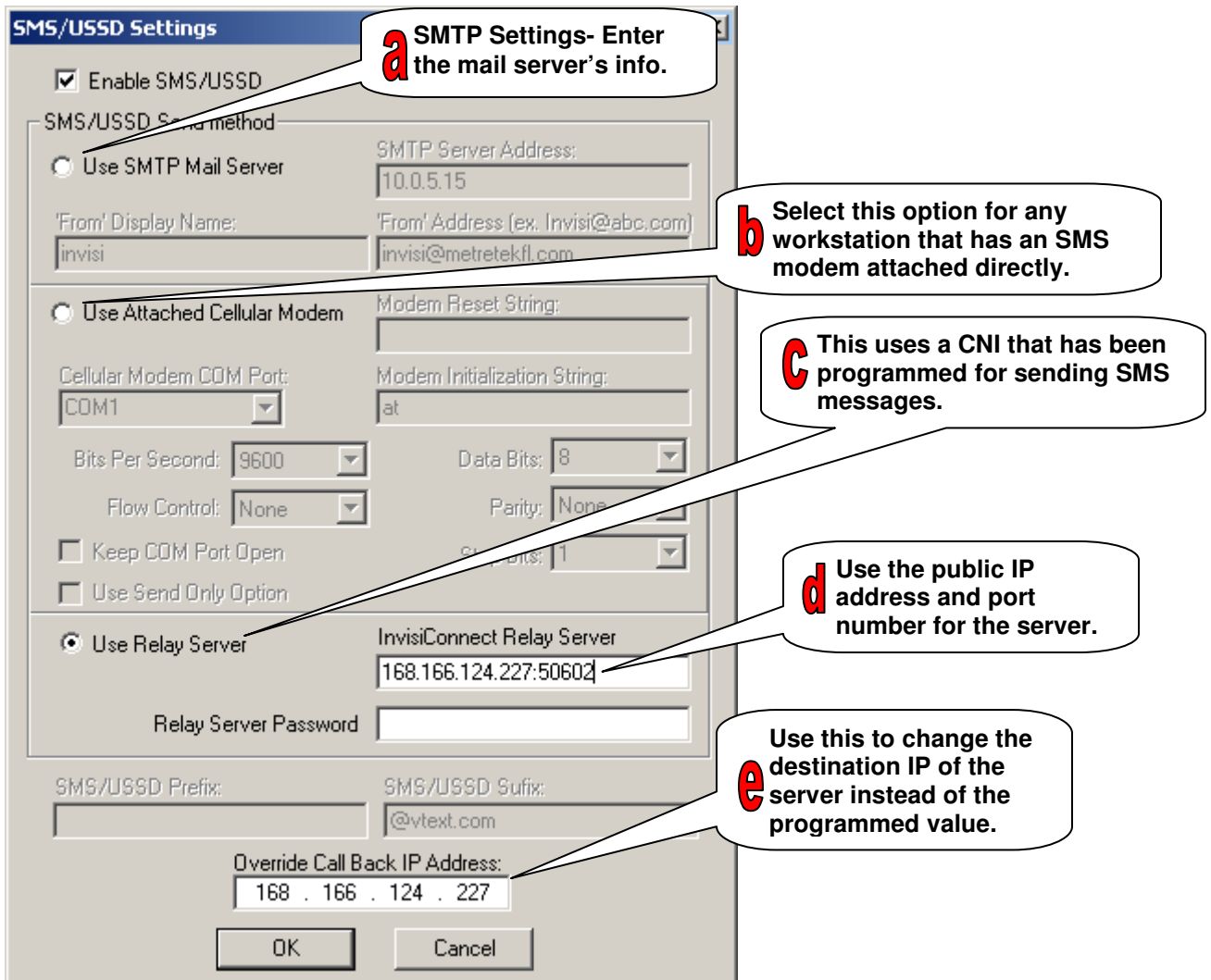


Figure 5 – InvisiConnect™ Configuration – SMS

- 5. On the main InvisiConnect™ window, click the <Start/Stop> button to start the services. If you receive any errors in the right pane of the window, repeat the above steps to help with troubleshooting the error.



## Final Notes

We at Metrotek are continually improving our products and software and are constantly improving InvisiConnect™ as both technology and our customers' needs change. To help us improve InvisiConnect™, we ask that you contact us at [support@metrotekfl.com](mailto:support@metrotekfl.com) with any questions or concerns you have about this product. If you have a suggestion for an improvement, we would like to hear about that too!

And since we are continually improving our products, minor version updates are typically free of charge to existing InvisiConnect™ customers.

Remember there are specific settings in InvisiConnect™ that allow you to “tweak” the communications process if you get inconsistent communications. Of course, Metrotek Technical Support is available to assist with your setup.