MediCollector

MediCollector SERVICE
Getting Started Guide

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Purpose

This document explains how to get started using MediCollector SERVICE.

Contents

Overview

MediCollector SERVICE is a software product for acquiring, recording and streaming data from a connected medical device. It is installed on a Windows computer which connects to a medical device using a cable. Data can be recorded to disk and/or streamed to external systems, such as hospital information systems (HIS) or electronic medical records systems (EMR) using HL7, or it can streamed to external applications such as Matlab and LabVIEW using a simpler TCP protocol (example code included).

The MediCollector SERVICE runs continuously, and invisibly, in the background on the computer and records and/or streams the data generated by the medical device. Because the software is installed a "Windows Service" this means that it will launch automatically and run invisibly in the background when the computer is launched. A user does not need to launch the software, because Windows launches it automatically.

This product comes with a configuration and management tool, called the "MediCollector Service Manager" which can be used to configure and monitor the service.

The MediCollector SERVICE product is somewhat like an "invisible" version of one of our other products called MediCollector BEDSIDE. While you are evaluating and testing our products, you may want to consider installing the MediCollector BEDSIDE product first. Then, when you are ready to move it into a production environment, you can switch to the MediCollector SERVICE. For advice on your approach, please contact us.

Please read this document carefully to get started using the software.

System Requirements

Before installing the software on your computer, review the following minimum system requirements:

- Microsoft Windows 7 or newer (64 bit only)
- 2.0 GHz CPU
- 1.0 GB RAM
- USB port (only required to unlock the evaluation version)
- Serial port (if your computer doesn't have one, you can use a USB-to-serial converter instead)

Connecting your medical device

Follow these instructions to connect your device.

1. First, make sure your device is on our list of supported devices.
2. On that list, you will also see the corresponding "cable pack" which is required for connecting your device. Review the requirements for the cable pack. For example, your medical device may need a special communications card.
3. Purchase the cable pack from MediCollector and follow the accompanying instructions to connect your device.
4. If required, also purchase a USB-to-Serial adapter for your computer.

If you are confused about cabling requirements, please contact us. We'd be happy to guide you through the process.

Please Note! You can always test MediCollector software **without connecting a physical medical device**. As explained below in this document, you can launch a session and select "Simulated Device" and generate simulated signals without connecting a physical device.

Installing the software

Download the latest installer from the MediCollector website. Install the software by double-clicking on the installer.

Because the MediCollector SERVICE runs invisibly in the background, you must use the "MediCollector Service Manager" (included in the installer) to configure and monitor the service.

Updating the software

It is recommended that you occasionally check the MediCollector website for software updates. The MediCollector Service Manager can check for updates automatically. We regularly release minor updates, improvements, and bug fixes via the website. To view a list of recent changes in the software, open the *changelist.txt* file which is available on the download page.

In order to update an existing installation, simply download and run the latest installer. It will overwrite the existing installation automatically. No need to un-install the old version.

Trying the FREE evaluation version

After installation, the software will run in "evaluation mode". While running in evaluation mode, you will have full access to the software, except that each recording/streaming session will be limited to a duration of 2 minutes. After your evaluation time has expired, the service will automatically stop. But then you can simply re-launch it for another evaluation period, over and over again. When you purchase the software, we will send you a USB dongle which inserts into your computer to unlock the restrictions.

Purchasing a license

To purchase the software, you can place an order directly on our website. Payment can be made using a credit card or Paypal or Apple Pay, or contact us for other payment options such as checks, wire transfers or purchase orders.

When you purchase the software, we will send you a USB dongle which will automatically unlocks the software.

Figure 1 License dongle

Using the software

Follow the instructions below to begin using the MediCollector SERVICE software.

Configuring your installation

The first thing you need to do is to configure the service. This is done using the MediCollector Service Manager which is included in the installer. Run the MediCollector Service Manager and click on the CONFIGURE button to configure your it. This will launch a wizard which will guide you through the process. Once configured, you can launch the service to begin recording/streaming.

⚠️ **IMPORTANT!** The MediCollector SERVICE is designed to run continuously in the background. If your computer goes to sleep in the middle of a session, this will disrupt communication with your connected medical device and generate errors when the computer wakes up again. To prevent this, make sure you configure the POWER & SLEEP SETTINGS in Windows such that the computer **never goes to sleep**.

Monitoring the service

The MediCollector SERVICE has no user interface. It runs invisibly in the background. However, to interact with it, you can use the MediCollector Service Manager, as seen below.
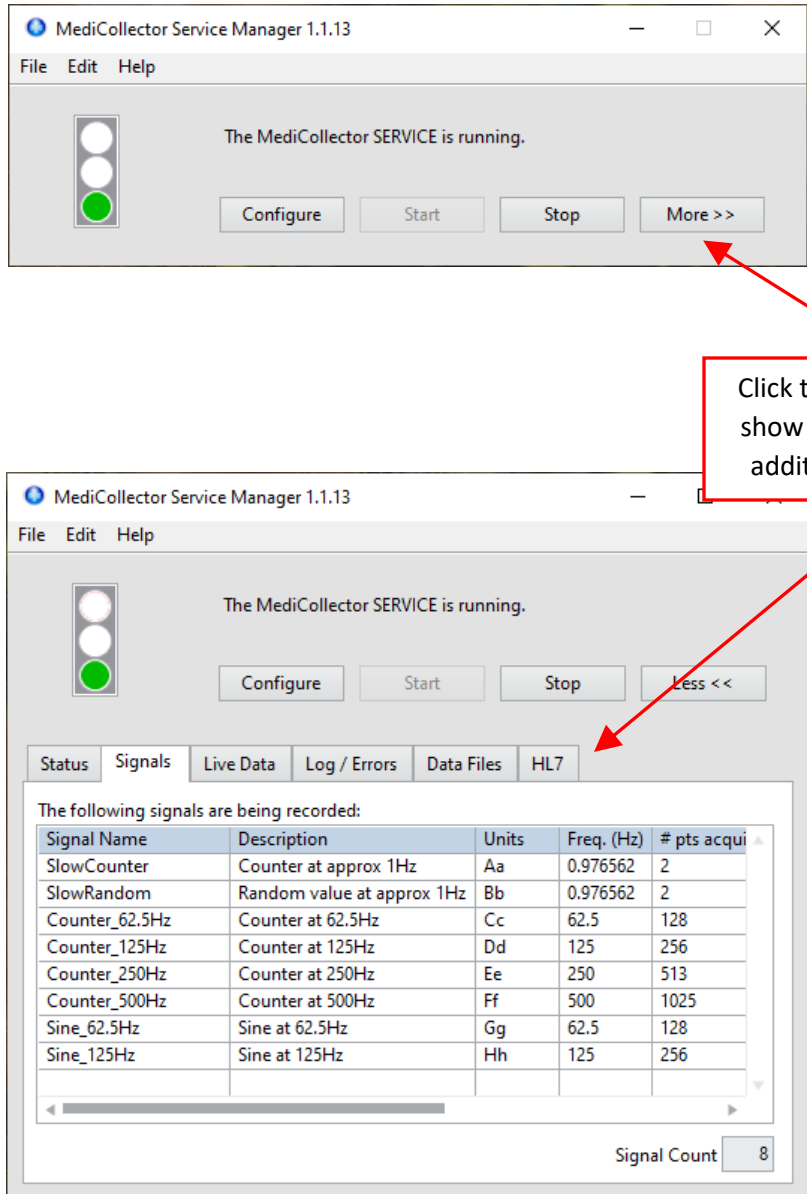
Figure 2 MediCollector Service Manager

The MediCollector Service manager has numerous functions, such as:

1. Monitoring the status of the service
2. Viewing live data that is generated by the service
3. Monitoring which signals are being recorded/streamed
4. Reviewing the log file for errors, etc.
5. Managing recorded datafiles and opening them for viewing
6. Monitoring HL7 message activity

Recording data

To record data using the MediCollector SERVICE, you must configure the service in order to enable recording. This is done by clicking the CONFIGURE button in the MediCollector Service Manager and following the instructions in the wizard that pops up. After configuring the software, you should launch the service (click the START button in the MediCollector Service Manager). You can then view live data using the MediCollector Service Manager.

By default, data is recording into the Data Directory located here:

C:\Program Files\MediCollector SERVICE\data

Using the MediCollector Service Manager, you can manage the files in the Data Directory and double-click on a file for viewing.

Streaming data to external systems (e.g. using HL7)

In addition to recording data MediCollector BEDSIDE can stream live data to external systems such as Matlab or LabVIEW or event to hospital information systems (HIS) such as electronic medical records systems (EMR) systems using HL7. To enable streaming, launch a session and enable streaming in the wizard that pops up (see Figure 3 below). For more information about streaming, read the TCP & HL7 Streaming Guide (also available via the main menu: *HELP>TCP & HL7 Streaming Guide*).

When enabling streaming, you will need to choose between the "HL7" protocol or the "MediCollector Format":

- **HL7**: Choose HL7 (Health Level 7) to stream data to a hospital information systems (HIS), electronic medical records systems (EMR), or integration engine, etc. The HL7 interface is explained in more detail in the TCP & HL7 Streaming Guide.

- **MediCollector Format**: Choose the MediCollector Format to quickly and easily stream data to external applications such Matlab or LabVIEW (example code included). The MediCollector Format is explained in more detail in the TCP & HL7 Streaming Guide.
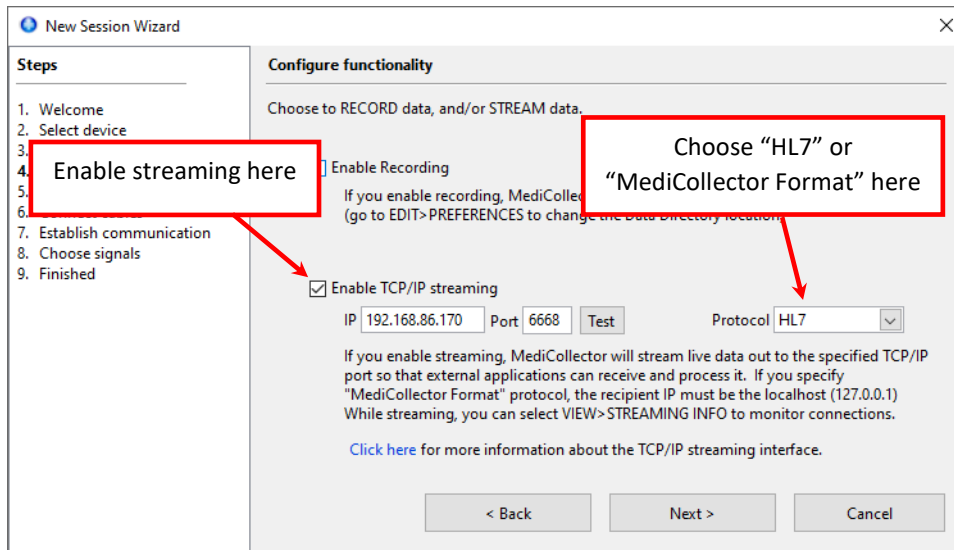
Figure 3 How to enable streaming

Launching & Querying the Service

The MediCollector SERVICE can be launched in many different ways. Upon installation, it is configured by default such that Windows will launch the MediCollector SERVICE when the computer launches. This configuration can be changed in the Windows Service Manager as seen below.
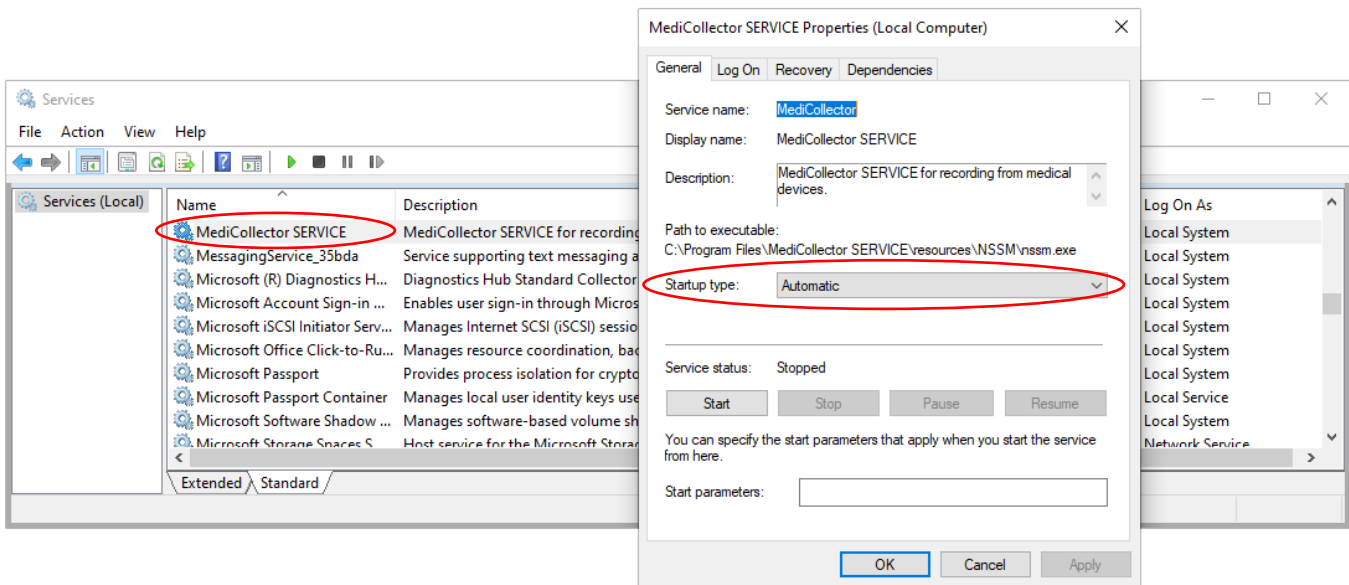

Figure 4 Changing how the MediCollector SERVICE launches

If you would prefer to start/stop the service from your own application, you can use either the NET or SC commands in Windows. To start and stop the service, use these commands:

```
net start medicollector
net stop medicollector

sc start medicollector
sc stop medicollector
```

The *net* command is synchronous, meaning it will wait while the service starts. The *sc* command is asynchronous, so it will send a command to start the service and then return without waiting for the service to start.

Both the net and sc commands have numerous other capabilities for managing and querying services. For example, the *sc* command is useful for querying the MediCollector service:

```
sc query medicollector
```

This command will return information about the service, such as:

```
SERVICE_NAME: medicollector
        TYPE               : 10  WIN32_OWN_PROCESS
        STATE              : 1  STOPPED
        WIN32_EXIT_CODE    : 1066  (0x42a)
        SERVICE_EXIT_CODE  : 0  (0x2)
        CHECKPOINT         : 0x0
        WAIT_HINT          : 0x0
```

The most useful information in this query is the STATE, which is:

```
SERVICE_STOPPED            0x00000001   The service is stopped.

SERVICE_START_PENDING      0x00000002   The service is starting.

SERVICE_STOP_PENDING       0x00000003   The service is stopping.

SERVICE_RUNNING            0x00000004   The service is running.

SERVICE_CONTINUE_PENDING   0x00000005   The service continue is pending.

SERVICE_PAUSE_PENDING      0x00000006   The service pause is pending.

SERVICE_PAUSED             0x00000007   The service is paused.
```

Please keep in mind that starting and stopping services requires Administrator privileges.

An additional tool for monitoring the service is available through the TCP streaming interface. If connected to the service and receiving data via TCP, a status packet is sent every 5 seconds indicating the state of the service. More information on the TCP streaming interface is available in the TCP & HL7 Streaming Guide.