

# **seca EMR Module for GDT**

## **Technical Documentation**

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# 1 GLOSSARY

## **EMR**

Electronic medical record

## **GDT**

A protocol that may be used to exchange data with an **EMR**

## **PDMS**

Patient data management system

## **seca emr flash 101**

An application designed for the reception of results from weight and height measurements and their storage in a patient data management system

## **seca EMR integration module (SEM)**

A plugin for **seca emr flash 101** that exchanges data between **seca emr flash 101** and an **EMR**

## **seca EMR Module for GDT**

The **SEM** that exchanges data between **seca emr flash 101** and **GDT**

## **Transfer folder**

A folder that is used for transfer between a medical device and a **GDT EMR**

## 2 SECA EMR FLASH 101 INTEGRATION WITH GDT ARCHITECTURE

### 2.1 Architecture overview

The **seca EMR Module for GDT** was designed to function as a native plug-in for **seca emr flash 101**. In doing so, the module does not require any additional installed components or frameworks.

The following diagram (Figure 1) displays a high level overview of the integration points between **seca emr flash 101** and **GDT**.

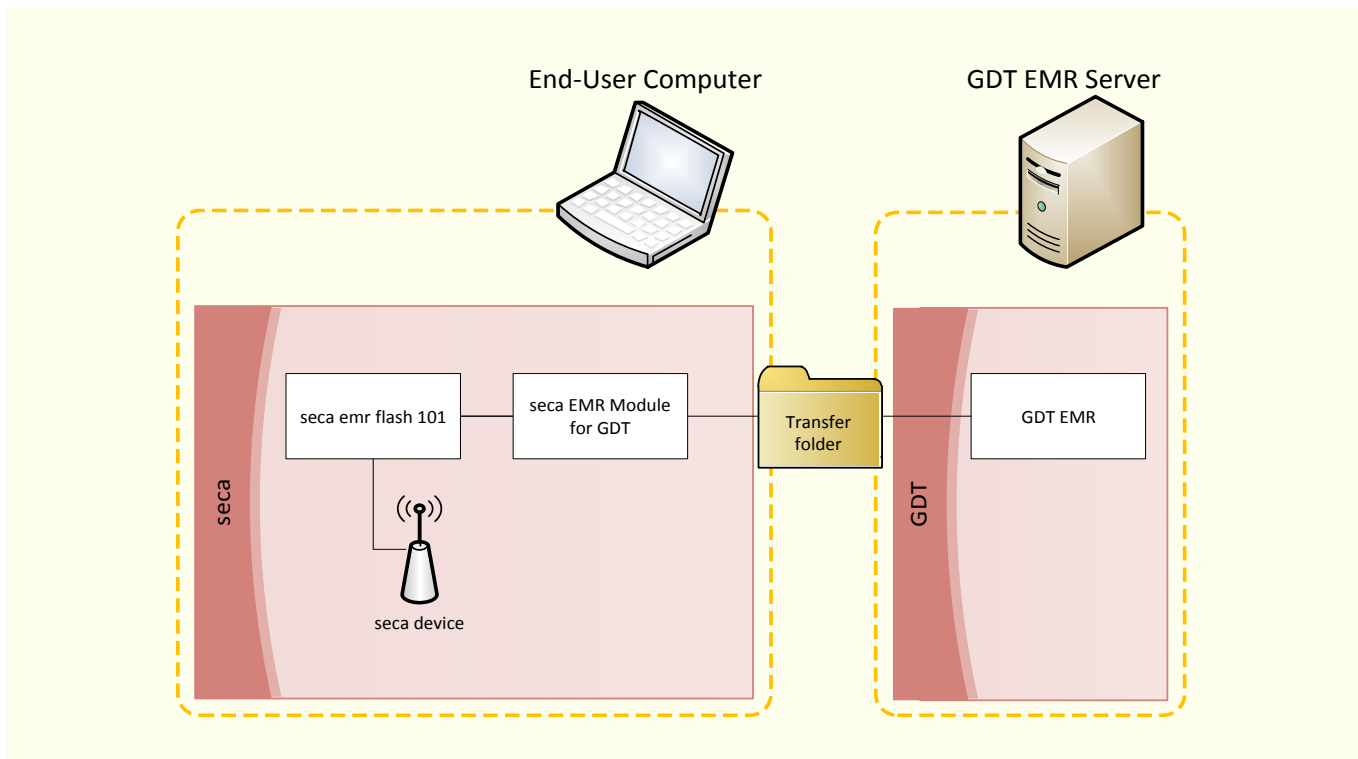


Figure 1 - High-level architecture

The **seca device** is connected via RS232 or wireless to **seca emr flash 101**. The **seca EMR Module for GDT** builds the connection to the **GDT Transfer folder**. This folder connects to the **GDT EMR**. The **Transfer folder** might be a folder of the end-user computer, of the GDT EMR server or of any other computer in the network.

### 2.2 Integration from GDT EMR to seca emr flash 101

#### NOTE:

- This integration (transferring patient data to **seca emr flash 101**) is optional. As an alternative, you might enter the **Patient ID** directly in **seca emr flash 101**, either by keyboard or using a device like a bar code scanner or an RFID scanner.

- In order to use this integration, your GDT EMR must have a client component on your computer, that can select a patient and that can trigger the patient data transfer.

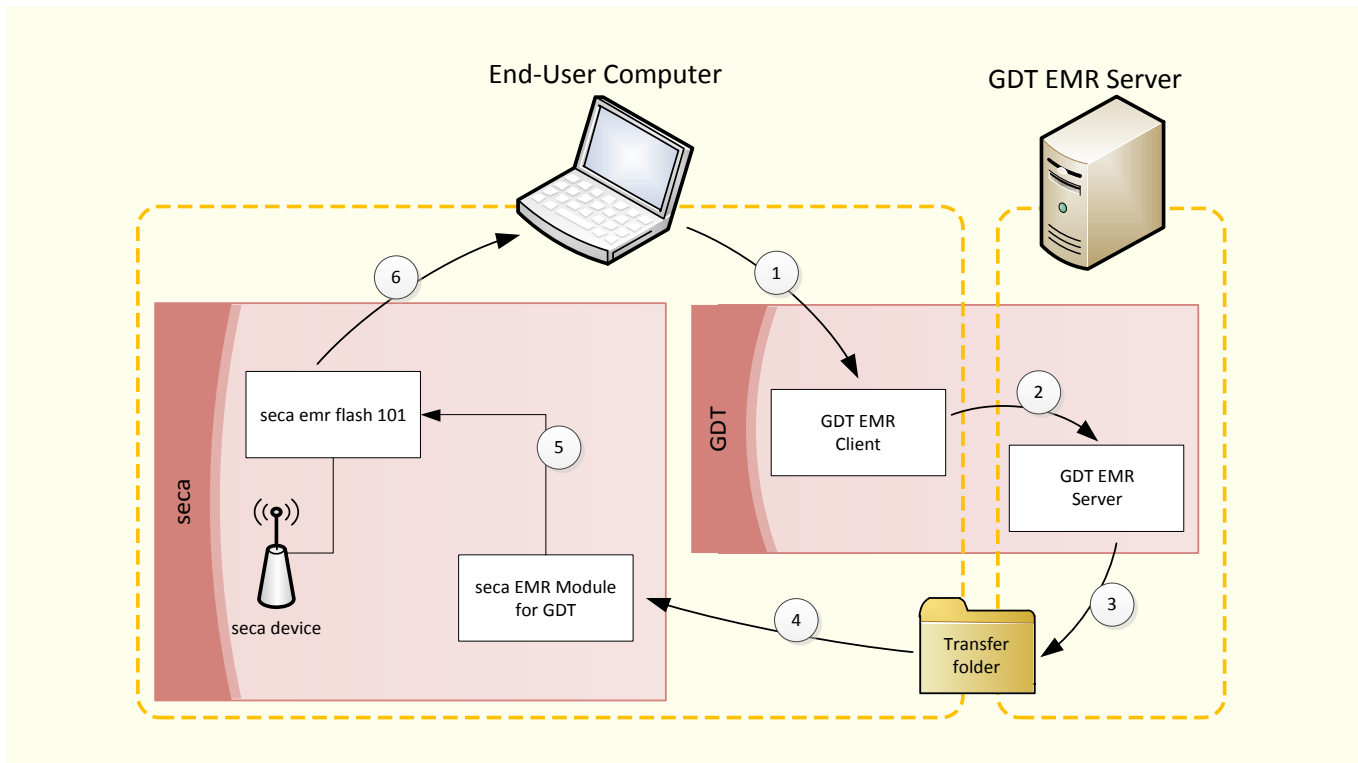


Figure 2 - Integration from EMR to *seca emr flash 101*

1. The end-user will authenticate in the **GDT EMR**.
2. In the EMR, the user will select a patient. After the user is selected, they will select an option in the EMR to start **seca emr flash 101**.
3. The **GDT EMR** will send one or more of the following user parameters in a file to the **Transfer folder**:
  - a. Patient ID
  - b. Patient First Name
  - c. Patient Last Name
  - d. Patient Date of Birth
  - e. Patient Gender
4. The file in the **Transfer folder** is sensed and consumed by the **seca EMR Module for GDT**.
5. The **seca EMR Module for GDT** will pass the patient information to the **seca emr flash 101** user-interface
6. The **seca emr flash 101** user interface will display the new patient information

## 2.3 Integration from *seca emr flash 101* to *GDT EMR*

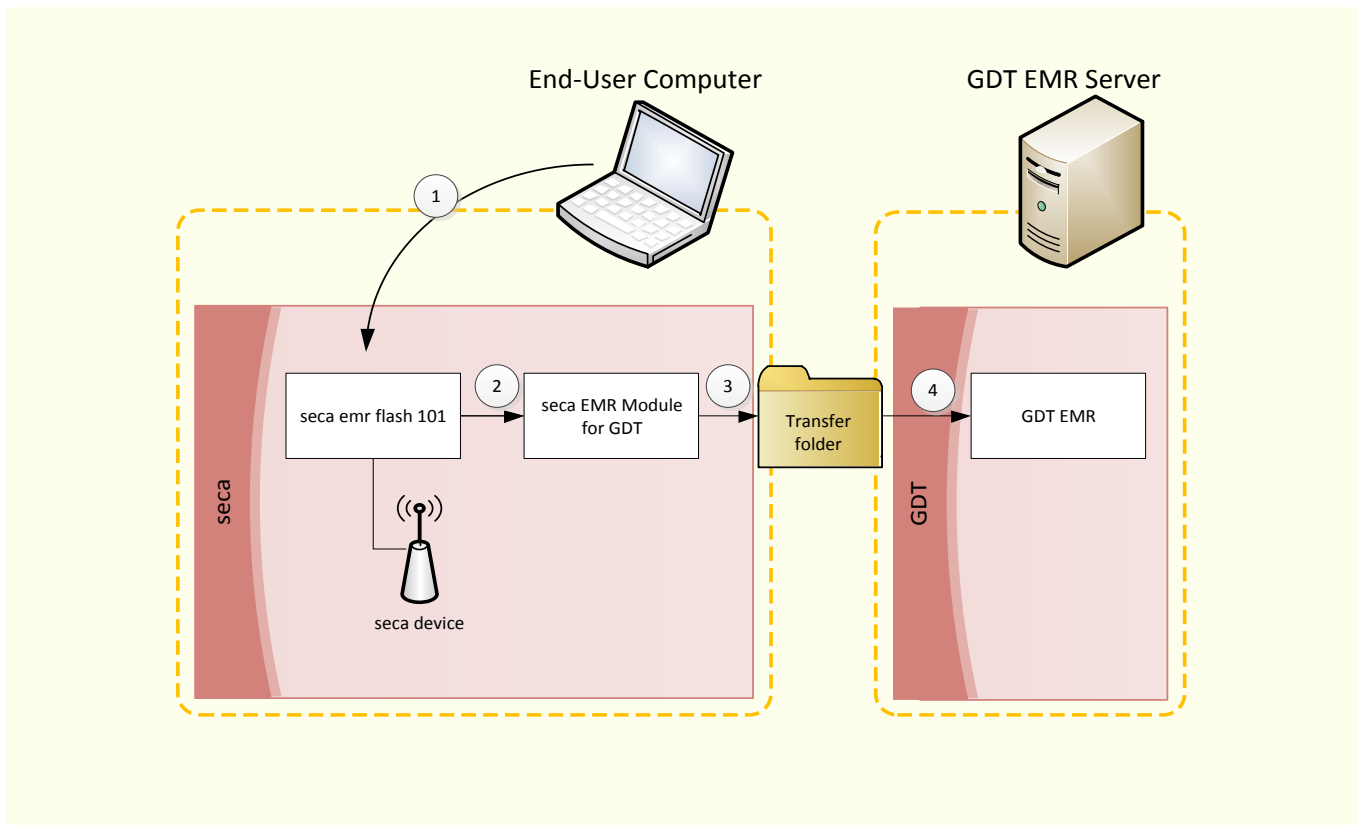


Figure 3 - Integration from *seca emr flash 101* to *EMR*

1. Once a patient reading has been taken, the end-user will trigger **seca emr flash 101** to send the measurement to the **seca EMR Module for GDT**.
2. The **seca EMR Module for GDT** will parse out the data presented by **seca emr flash 101** and prepare it for submission to the **GDT EMR**.
3. The **seca EMR Module for GDT** will transmit the measurements in a file to the **Transfer folder**.
4. The file is sensed and consumed by the **GDT EMR**.
5. (optional) The updated patient information will be available within the **GDT EMR** user-interface

## 3 INTEGRATION WORKFLOWS

The following section details the steps taken during the integration process of **seca emr flash 101** and **seca** devices with an **GDT EMR**.

There are several workflow alternatives supported by **seca emr flash 101**.

### 3.1 Normal workflow

In the normal workflow, measurement data is sent along with patient data to the **EMR**. Thus, the normal workflow uses two steps:

1. Collect patient and measurement data in **seca emr flash 101**
2. Send patient and measurement data to the **EMR**

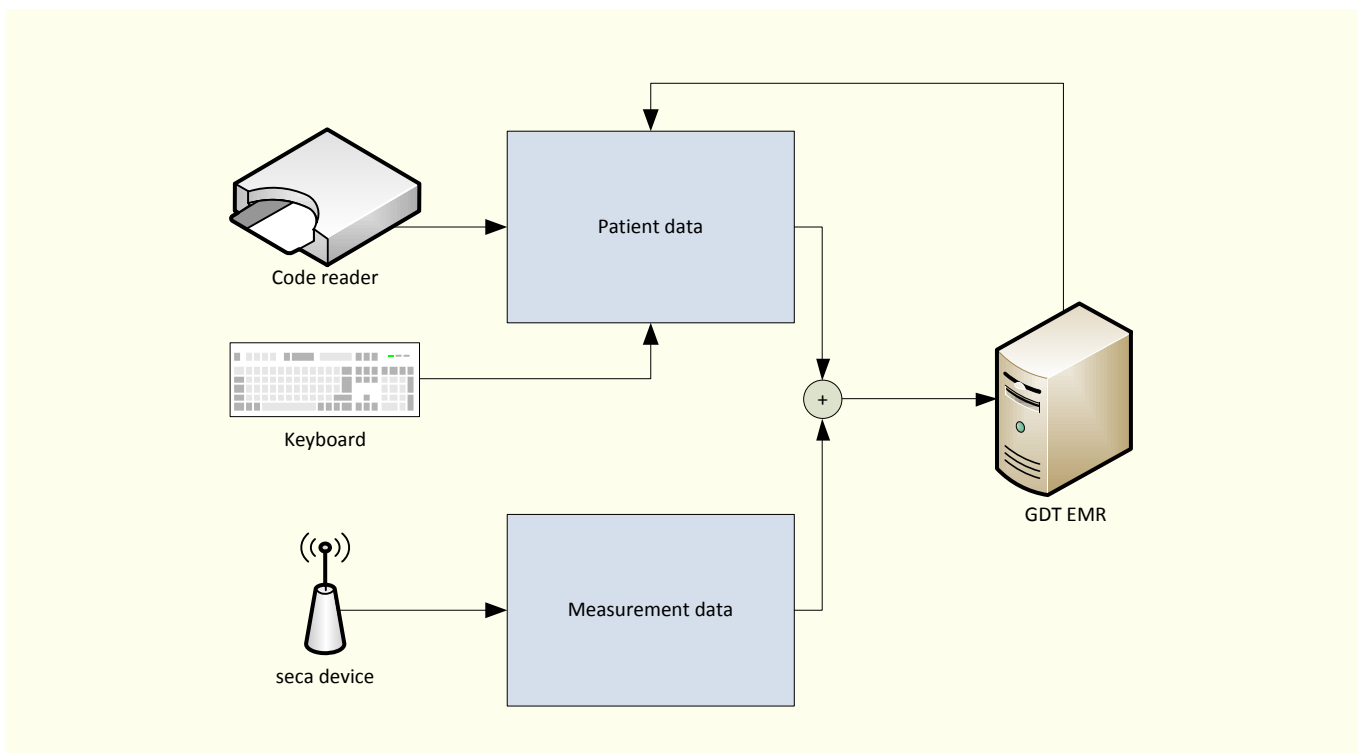


Figure 4 - Normal workflow

#### 3.1.1 Providing **seca emr flash 101** with patient data

There are different methods to provide **seca emr flash 101** with patient data:

1. Patient data is being sent from the **EMR**
2. Patient ID is being sent from a scanner
3. Patient ID is entered manually

Note that the methods available depend on your **EMR**.

### 3.1.1.1 Sending patient data to *seca emr flash 101* from *GDT EMR*

An end-user will start the **GDT EMR** client application. Once the user has authenticated within the application, they will find the patient within **GDT EMR** and bring them into context. If the patient in context requires height or weight measurements from the **seca** device, the end-user will launch the **seca emr flash 101** by clicking the "seca" button (Figure 5).

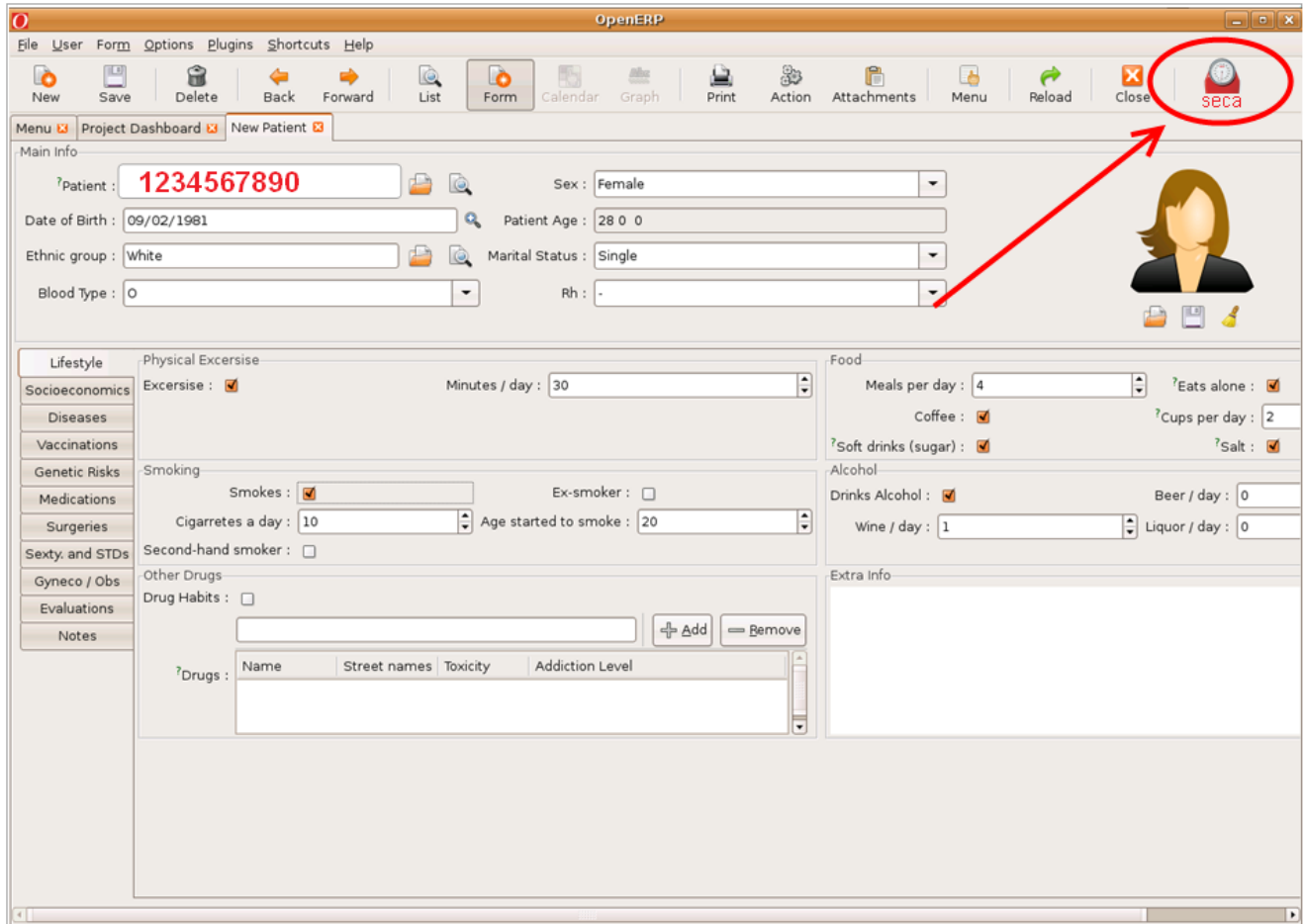


Figure 5 - Sending patient data from *GDT EMR*

**GDT** will then launch the **seca emr flash 101** and bring it into context. The **seca EMR Module for GDT** will import the patient demographic and identifying information into the **seca emr flash 101** user interface (Figure 6).

Figure 6 - Patient data received in *seca emr flash 101*

#### 3.1.1.2 Sending Patient ID from a code reader

If you have a suitable bar code or RFID scanner connected to your computer, you may use this device to enter a Patient ID directly from a patient's badge or from a bar code printed on a routing slip.

#### 3.1.1.3 Entering Patient ID from the keyboard

Of course you may enter the Patient ID with your keyboard.

### 3.1.2 Sending measurements from *seca emr flash 101* to *GDT*

With the patient in context, the end-user will have the patient stand on the scale. When the measurement is valid the results will be transferred to **seca emr flash 101**. The end-user will then select **send to EMR** and the results will be transferred to the **GDT EMR** (Figure 7).

seca emr flash 101

**seca emr flash 101**

Weight: 76 kg

Height: 1.76 m

Patient ID: [empty]

First name: Max

Surname: Smith

Date of birth: 15.06.1955

Sex: ☒ Male ☐ Female

Devices <<

Available scales	Available stadiometers
seca 285 ROOM 1	seca 285 ROOM 1
seca 378 ROOM 2	

help send to EMR cancel settings

Figure 7 - Receiving measurements and sending to *EMR*

If there is a supporting client of the **GDT EMR**, the end-user can use it to review the results taken from the **seca** device and make any additional changes, as necessary (Figure 8).

The screenshot shows the OpenERP application window with the 'New Patient' form. The patient's ID is 1234567890, born on 09/02/1981, female, white, single, with blood type O. The 'Lifestyle' section includes physical exercise (30 minutes/day), smoking (10 cigarettes/day, started at age 20), and food/alcohol intake. The 'Extra Info' section, highlighted with a red circle and a red arrow, contains the following data:

Extra Info			
Weight:	76.0	kg	
Height:	1.76	m	

Figure 8 - Measurements received in EMR

## 3.2 Autosend workflow

In the autosend workflow, measurement data is sent without patient data to the **EMR** automatically. Whenever a measurement arrives (e.g. the scale's "send" button has been pressed), this measurement is being sent to the **EMR** immediately. In this case, the measurement has to be associated with the patient by the **EMR**.

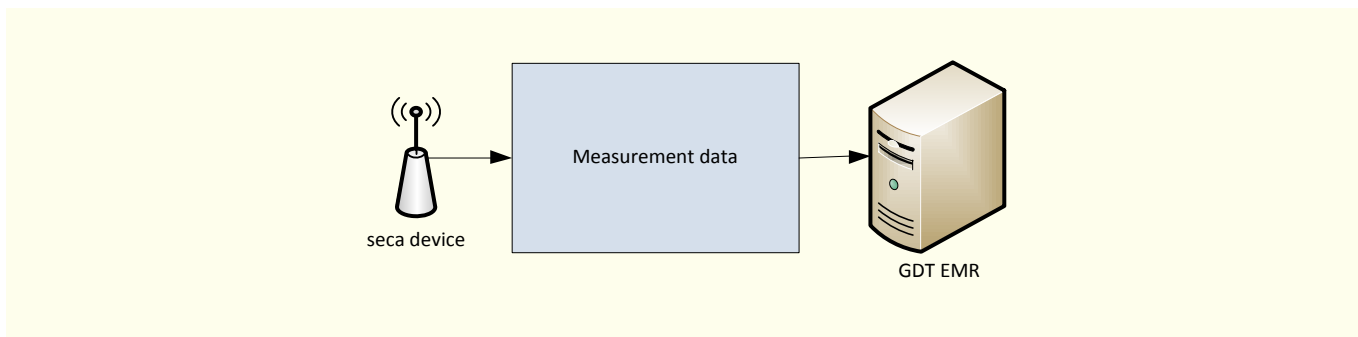


Figure 9 - Autosend workflow

## 4 DEPLOYMENT INSTRUCTIONS

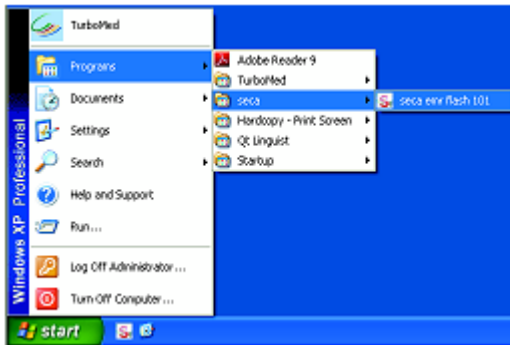
### 4.1 Installing and configuring *seca EMR Module for GDT*

Perform this step on the  
End-User Computer



#### 4.1.1 Installation steps

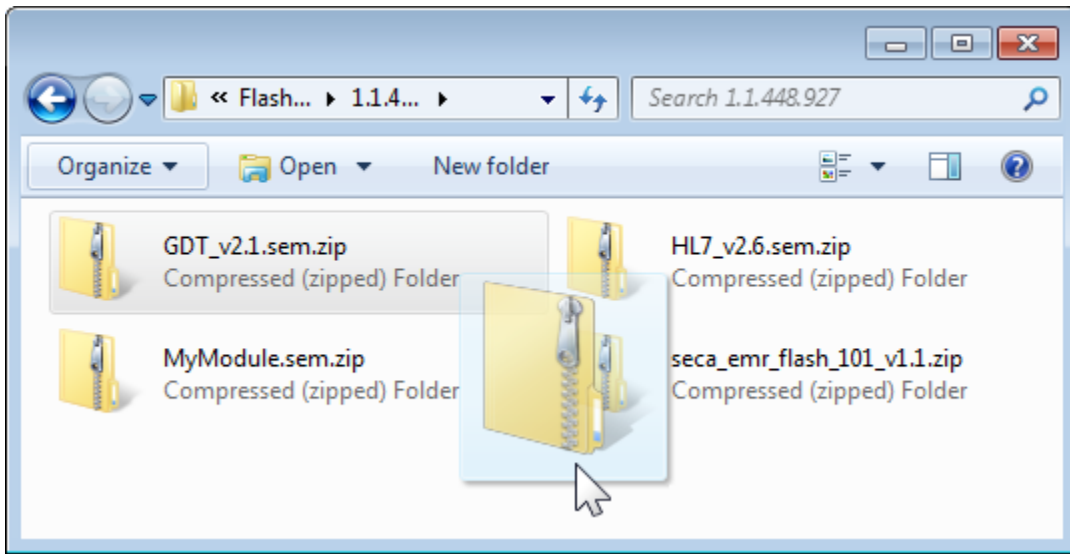
1. Open **seca emr flash 101** (Seca.Flash.exe)



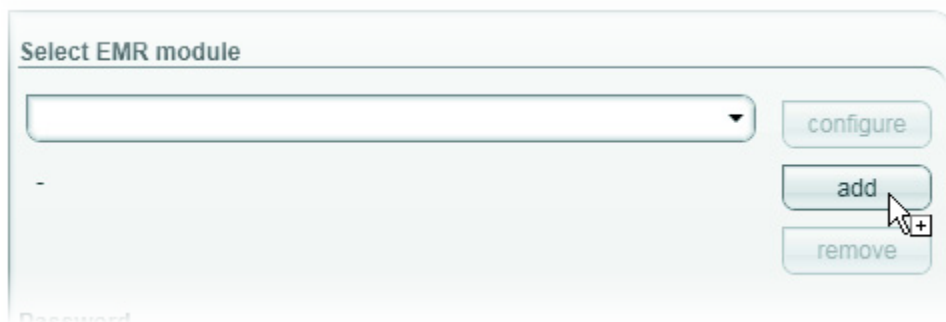
2. Click on the **settings** button



3. In Windows Explorer locate and select the **GDT\_v2.1.sem.zip** package



4. Drag this file and drop it to the **add** button of the configuration screen.



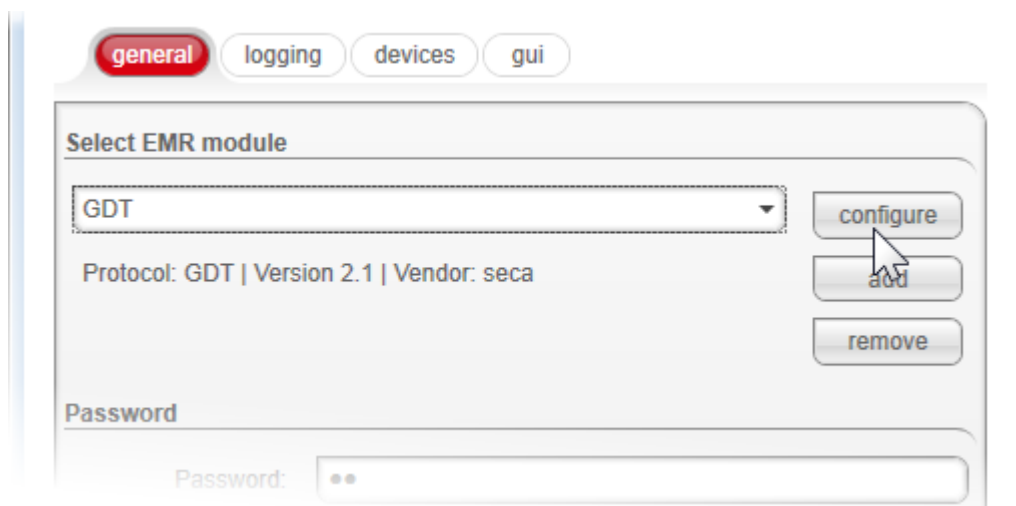
Alternatively, you may press the add button and select the file from an Open dialog.

5. The **seca EMR Module for GDT** will now be ready for configuration



## 4.1.2 Configuration

1. Click **configure**



The screenshot shows a web-based configuration interface. At the top, there are four tabs: 'general' (highlighted in red), 'logging', 'devices', and 'gui'. Below the tabs is a section titled 'Select EMR module'. Inside this section, there is a dropdown menu currently showing 'GDT'. To the right of the dropdown are three buttons: 'configure', 'add', and 'remove'. A mouse cursor is pointing at the 'configure' button. Below the dropdown, the text 'Protocol: GDT | Version 2.1 | Vendor: seca' is displayed. At the bottom of the section is a 'Password' label and a password input field with two dots indicating masked text.

2. The configuration screen is shown

seca emr flash 101

seca emr flash 101

general logging devices gui

Configure GDT module

Transfer folder: C:\Documents and Settings\All Users\Application Data\seca\F...

Name: SecaFlash

Short name: SEFL

Server name: DoctorPc

Server: DRPC

Encoding: CP1252

Single file: ☒

☐ Use dedicated fields (field 3622/3623)

☒ Use freetext fields (6220)

Weight pattern: Weight: {0}

Height pattern: Height: {0}

help ok cancel

3. If the configuration is not filled out, the following information will need to be entered:

- **Transfer folder**  
Folder for exchanging files with **GDT EMR**  
Default: *flashHome*\GDT-Transfer<sup>1</sup>

<sup>1</sup> *flashHome* is normally a path like "C:\Documents and Settings\All Users\Application Data\seca\Flash" or "C:\ProgramData\seca\Flash"

- **Name**  
Name that identifies **seca emr flash 101** as a **GDT** device source  
Default: SecaFlash
  - **Short name**  
Short name that identifies **seca emr flash 101** as a **GDT** device source  
Default: SEFL
  - **Server name**  
Name that identifies the **GDT** server  
Default: DoctorPc
  - **Server**  
Short name that identifies the **GDT** server  
Default: DRPC
  - **Encoding**  
Encoding that is used for sent messages  
Default: CP1252
  - **Single file**  
Checked when GDT single file transfer is to be used instead of multi file transfer  
Default: Unchecked = Multi file transfer
  - **Use dedicated fields (field 3622/3623)**  
Checked when field 3622 shall be used for lengths and field 3623 shall be used for weights  
Default: Checked
  - **Use freetext fields (6220)**  
Checked when field 6220 shall be used for sending measurements.  
Default: Unchecked
  - **Weight pattern**  
Pattern to be used for weights when "Use freetext fields (6220)" is selected. Note that {0} is used as a placeholder for the actual weight.  
Default: Weight: {0}
  - **Height pattern**  
Pattern to be used for heights when "Use freetext fields (6220)" is selected. Note that {0} is used as a placeholder for the actual height.  
Default: Height: {0}
4. Check whether you can accept the default settings for the PDMS interface (recommended).
  5. If necessary change the default settings listed above according to your system.
  6. Configure an interface in your PDMS according to the settings in this section.

**NOTE:**

- For more information on configuring your **seca EMR integration module**, click on **help**.
- You can find configuration instructions for some PDMS at [www.seca.com](http://www.seca.com).
- Take note of the user documentation for the PDMS used.

## 4.2 Configuring *GDT*

Perform this step on the  
GDT EMR Server



This step depends on the particular **GDT EMR** you are using.

## 5 PROTOCOL DETAILS

The **seca EMR Module for GDT** is using GDT Version 2.1 file transfer as protocol.

### 5.1 Receiving patient data from *GDT EMR* by *seca emr flash 101*

Sending patient data from the **GDT EMR** to **seca emr flash 101** can be done through a set 6301 or set 6302 message. See Figure 10 for an example.

```
01380006301
014810000241
0178315SecaFlsh
0178316DoctorPc
01092063
014921802.10
0193000UNIQUE0001
0153100Junior
0133102Mike
0173101Ångström
017310315041979
0153104Doctor
026310612345 Musterstadt
0243107Musterstraße 11
01031101
```

Figure 10 - Set 6301 sample

When **seca emr flash 101** receives such a message, it pops up showing the patient data in its main page.

### 5.2 Sending measurement data from *seca emr flash 101* to *GDT EMR*

Sending measurement data is done through a set 6310 message. See Figure 11 for an example.

```
01380006310
014810000231
0178315DoctorPc
0178316SecaFlsh
01092063
014921802.10
0193000UNIQUE0001
0173101Ångström
0133102Mike
017310315041979
01031101
0123622123
011362355
0158402ALLG00
```

Figure 11 - Set 6310 sample

When the "send to EMR" button is pressed in **seca emr flash 101**, the measurements are sent along with the patient data to the **GDT EMR**.

When "Autosend" is activated, no patient data is available and a measurement is received in **seca emr flash 101**, the measurement is sent to the **GDT EMR**.