

MobiLPR

MobiLPR for Android 1.0 User Guide



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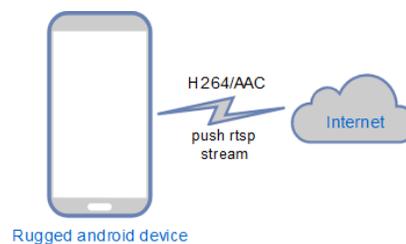
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MobiLPR User Guide

March 2022

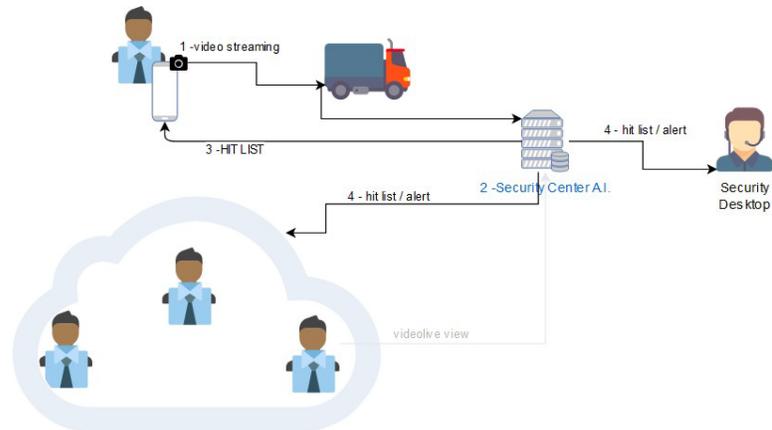
MobiLPR™ for Android

MobiLPR is a patent pending application for Android devices that turns the device's camera into a License Plate Recognition (LPR) system, complementing or eliminating the necessity of the expensive LPR cameras and other connectivity hardware installed in patrol cars. This also opens the solution to new features like alerting nearby users, watching live streams and GPS location of others within your organization, generate panic alerts, and integrate external Android accessories.

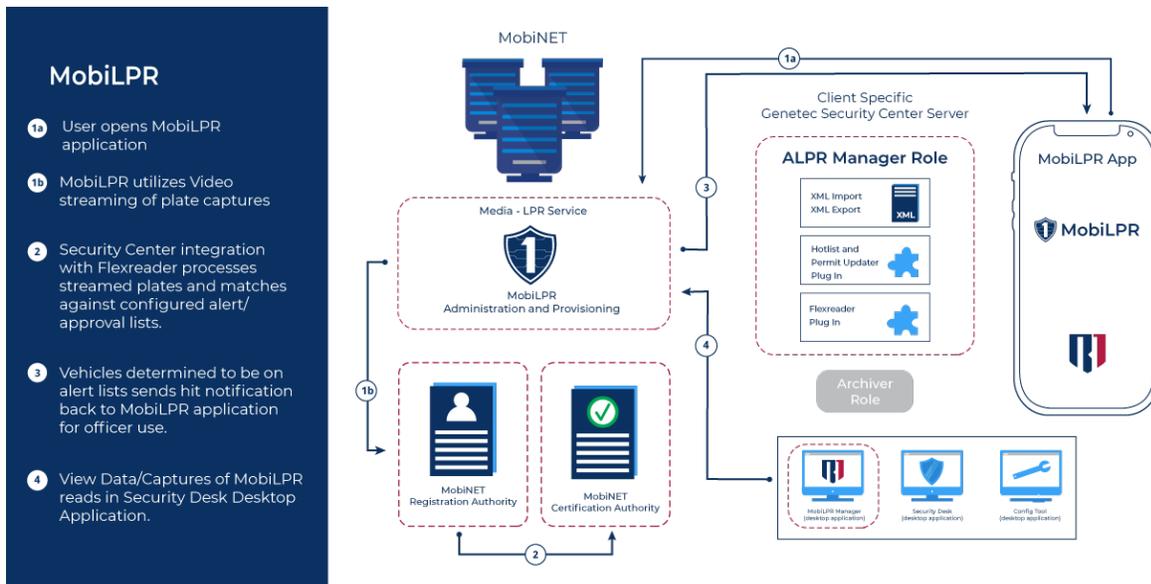


How does it work?

- 1- The user opens the app (authenticates typing user/password or with fingerprint authentication). The app provides an interface displaying a map, with the current location (if enabled), and surrounding LPR hit alerts and alerts (if any). The user can now touch the camera button. The app provides a camera preview image and begins streaming the video to Security Center.
- 2- Security Center reacts to the video stream and performs the LPR analysis. Returns results.
- 3- The app receives and displays the result and notifies if the plate matches on a hit list (categorized as in wanted, parking violation, etc.).
- 4- If the match is, for example, in a wanted hot list, the app can automatically declare itself in panic mode alerting nearby users (if desired) while Security Center also generates its events through Security Desktop (see graph below). The different possible plug-ins of Security Center provide extra functionality as to parking enforcement, permits, and ticketing integration services.



Overall Architecture



MobiLPR seamlessly integrates with Security Center acting as another LPR security IP Camera. It provides video encoding information and establishes the video streaming channel adding TLSv1 encrypted connectivity with the use of [MobiNET™](#) certificates trusted by our app, and issued by Route1’s [MobiNET](#) infrastructure. [MobiNET](#) combines the strength of a PKI technology with the trust and flexibility of multi-factor authentication, [exceeding the most stringent government / military / enterprise privacy and security standards.](#)

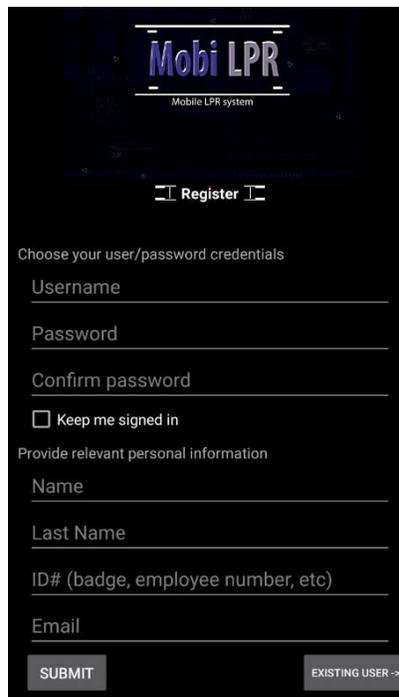
Installation

Registration

MobiLPR™ provides a way for the apps to register the first time the user opens the app. It will request a username, a password, and contact information. With this process the system generates the appropriate unique camera ID number that will be used to configure entities in Security Center and identify each user instance with a unique video stream based on this ID.

The “keep me signed in” will allow you to open the app in the future without having to enter the user/password again.

The ID# field, is of generic use. You can enter any relevant information that identifies you within your organization.



The screenshot shows the registration interface for the MobiLPR system. At the top, the 'Mobi LPR' logo is displayed with the subtitle 'Mobile LPR system'. Below the logo is a 'Register' button. The form is divided into two sections: 'Choose your user/password credentials' and 'Provide relevant personal information'. The first section includes fields for 'Username', 'Password', and 'Confirm password', along with a checkbox for 'Keep me signed in'. The second section includes fields for 'Name', 'Last Name', 'ID# (badge, employee number, etc)', and 'Email'. At the bottom, there are two buttons: 'SUBMIT' and 'EXISTING USER ->'.

When the app session is established for the first time, the app will query the user for authorization to access the smartphone’s cameras, microphone and GPS location before displaying the map. Upon authorization the app will request to restart. After doing so, the app will open normally.

Logging in

Once your account has already been registered for the first time, it will require you to enter your username and password (unless “keep me signed in” was checked at registration).

NOTE: You can use the same user/password across devices.

How System Administrators Can Integrate the App with Genetec Security Center

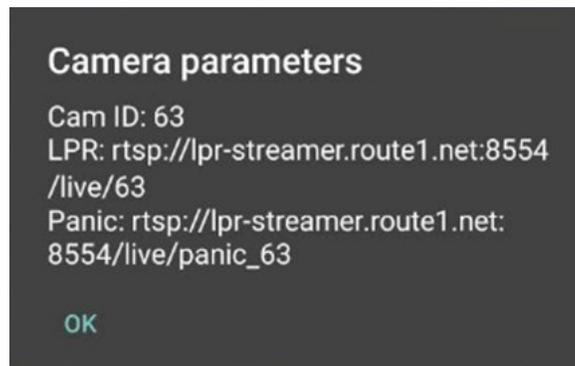
Three components to integrate the app with Genetec Security Center are Genetec’s AutoVu™ plugin, Genetec’s FlexReader™ plugin and enabling Genetec’s File Watch System (“Konfigurator” tool). The steps to integrating Genetec’s AutoVu and FlexReader plugins can be found below.

Steps

Create camera entities for each app

In order for MobiLPR™ to work, Security Center requires the FlexReader plug-in and the AutoVu plug-in installed with the XML Export feature enabled and configured properly to a local folder in this windows server. The latter is the Genetec File Watcher service that must be configured (Konfigurator tool) to access this folder and upload to the SFTP service running in MobiNET™.

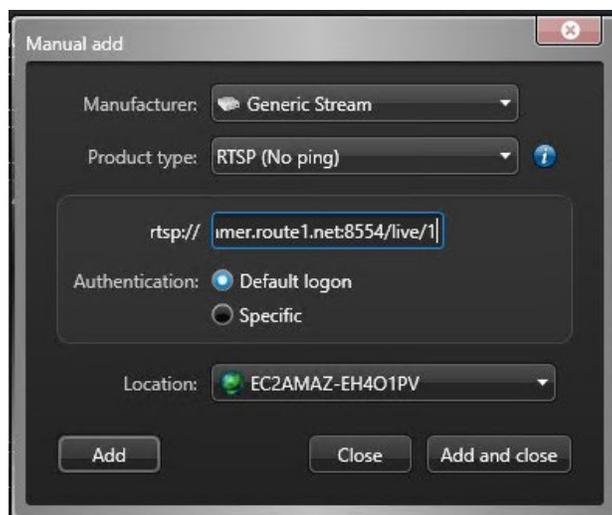
Each app instance has a unique ID number assigned upon user registration, this ID number is used by the app to make the video streams available to your Security Center installation. It makes available two video stream URLs. One URL for LPR mode and another one for Panic mode live streaming.



The app has a button on top of the camera preview that will display these URLs so the user can then use them in Security Center.

NOTE: the purpose of having two different URLs (one for LPR analysis and one for panic mode) is that when in panic mode, you can set it up differently on Security Center to record the video, and avoid running LPR analysis on it. It also allows the user to setup a separate Media Server with a different URL, dedicated to serving panic mode streaming, so it can be set up differently, redundant services, higher priorities, etc.

The administrator of Security Center from the “video” option in the “config tool” (add video unit option) has to create two camera entities based on these URLs for each app instance (creating each camera as "Manufacturer: Generic Stream", "Product type: RTSP no ping") specifying the respective URL from each instance of the apps. One for LPR analysis, and another one for Panic Mode streaming.



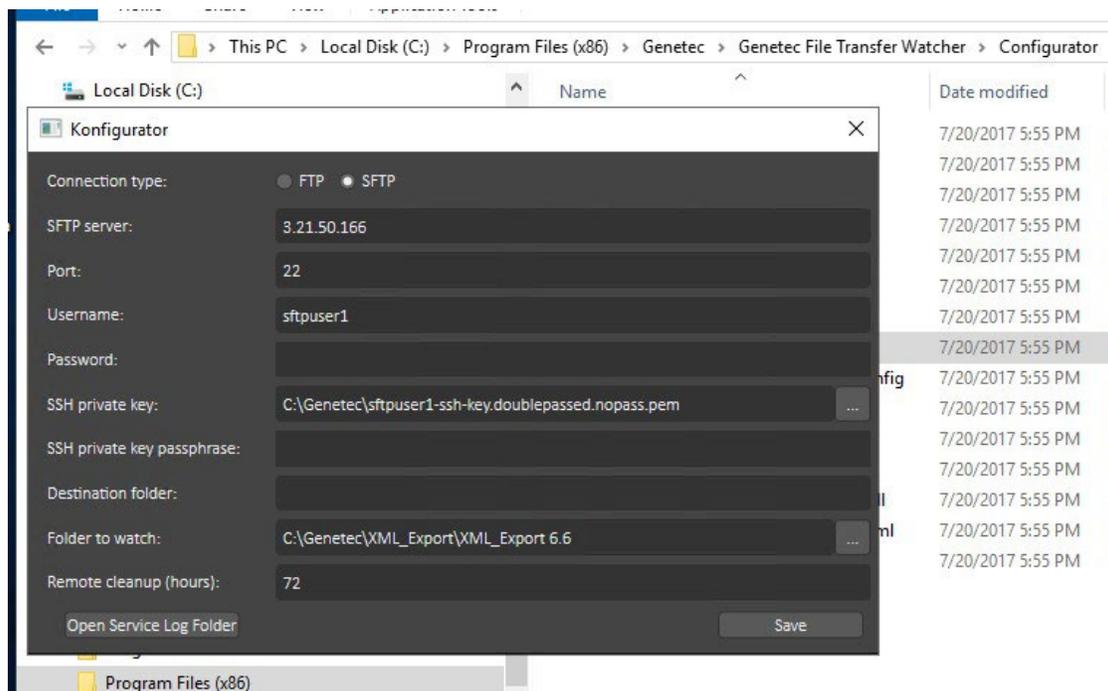
(It is recommended to disable any recording in the LPR entity, each LPR reading will already store the context picture in Security Center and in MobiNET. The panic mode stream should be setup to record and generate alerts as necessary).

Enable cameras in FlexReader

The Security Center Administrator then has to add each LPR camera entity (corresponding to each app) in the FlexReader plugin as well. This is done also in Genetec’s Config Tool -> Plug-ins -> FlexReader properties tab (add camera button). This way, S.C. will begin running LPR analysis on these cameras and generate the LPR events accordingly.

NOTE: the panic-mode streaming URL doesn’t need to be linked into FlexReader (its main purpose is to record video, not to perform analysis. Although if desired it can be configured to perform LPR as well).

Communication between Security Center and MobiNET is done using the Genetec File Watcher service included with Security Center and **the XML export feature of Security Center has to be enabled** and configured to a local folder. This local folder has to also be set up in this Genetec’s Konfigurator tool.



MobiLPR will provide the parameters (user, password and certificate) to connect this Genetec service with the MobiNET.

Usage

Video Streaming and LPR



When the camera button is touched, the camera preview screen shows up at the bottom right corner of the map. If the connection is established, the spinning progress icon will disappear.

If there's any connectivity error (you'll see a message indicating so), the app will attempt to reconnect endlessly until you press the stop button on top.

Security Center will be receiving this live video, scanning for licenses and/or recording the live stream. When it detects a plate, the app will display it in the "LPR Reads" section.

If there is a match in any of the hit lists configured in Security Center, the app will vibrate the mobile and display the hit in the LPR Hits section. This hit list is updated as the system reports hits (in its categories i.e. wanted, overstay infraction, etc.) for the license plates captured during the live streaming.

Using the "Only me" button, you can switch between seeing everyone else's records or only those generated by your user account. After the system is configured with Security Center, it will also display any plate reading with any device connected to Security Center (not just MobiLPR™). For instance, if you already have three patrol cars sending LPR reads to Security Center, you will also see them in your MobiLPR app as well as any match they may produce in the hit list when the "Only me" option is set to off. If the LPR devices also provide Security Center with spatial information, you will also be able to see them on the MobiLPR map.



Panic mode



When using this button, the app will enter in "panic mode". It will begin uploading its current spatial information faster, will automatically generate an alarm to other users of this event, and start a live video streaming. Other users within your organization will receive this alert in the "alert" section and they can watch this video stream from their respective mobiles using this app by touching the gray button to the right of the alert item.

Touching the panic button again will exit panic mode.

NOTE: In v1.0 the app “VLC player for Android” or similar is required to watch the live video stream of other users in panic mode.

GPS reports

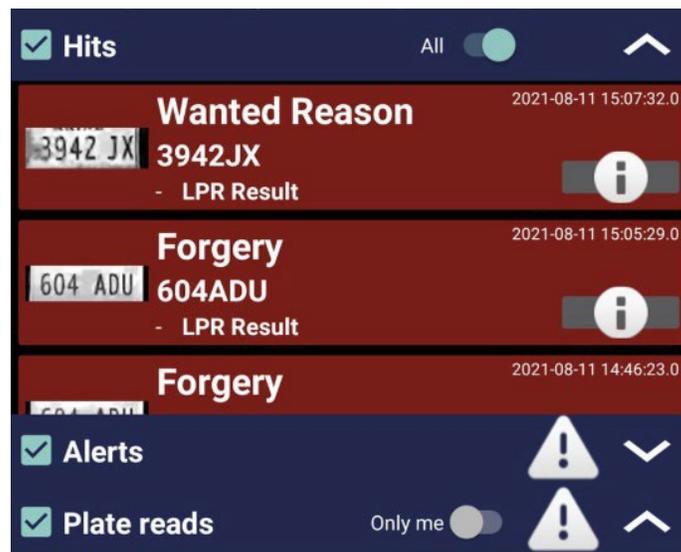
After your user session is established for the first time, the app will query the user for authorization to access GPS information. If accepted, it will start / resume a background service that captures the GPS location established by the smartphone’s operating system, sending it to the MobiNET. If there’s no connectivity, or the server response times out, it will reattempt sending the information until connection is re-established.

Lists

The lists at the bottom of the screen can be expanded to display their respective information. They can be collapsed/expanded as needed by the user to leave screen space for the map.



The information received from Security Center and the MobiNET will be available in the lists at the bottom of the screen. These lists can be expanded or collapsed as needed. All lists will download information as it becomes available and download older records as the user scrolls to older items.



The exclamation triangle on each list will indicate that new records have been downloaded and haven't been seen by the user yet.

The "Only me" button will filter out any records that were produced from other apps or cameras within your organization and allow you to see only those events related to that mobile.

Manual plate checking



When this button is pressed, a window will come up where you can type in a license plate manually. The manually typed in license plate will then get sent to Security Center to run a check against the License Plate database and return a result to the app.

Alerts

When other users of the app start panic mode in their mobiles, you will see a notification in the "alerts" list. When expanded you will be able to see each of these alerts and see them in the map as well. Touching an alert record will position the map in the location where the mobile was when the panic mode started. There's also a button to the right that will open (if available) the live streaming video of the "panicking" user.

FAQ

Where do I get a License Key to register?

If you never received a License Key to register, please refer to the Route1 Support section below to make a call.

What distance is recommended when scanning a License Plate?

8 to 10 feet. There will be a black unfilled rectangle drawn in the camera preview to assist in ensuring that you're within that 8 to 10 feet distance.

I just saw an alert come in, how do I watch the stream?

We recommend you download VLC on the Android Google Play store. Clicking on the stream link within the MobiLPR for Android app will redirect you to the stream within VLC.

References

Genetec knowledge base	AutoVu FlexReader
Security Center API	Genetec SDK 5.9 Documentation
FlexReader LPR hits	Genetec XML Export Administrator Guide

Route1 Support

For assistance, the below contact information can be used to communicate with our Route1 support team.

Network Operations Support support@route1.com

1-866-371-1781 (Available from 12 am on Monday to 11 pm on Friday, and 8 am to 8 pm on each of Saturday and Sunday. All times are Eastern)

1-561-314-9091 (Available from 7 am to 11 pm on each weekday – Monday to Friday, and 8 am to 8 pm on each of Saturday and Sunday. All times are Eastern)

Office Locations

Arizona

7300 N. Via Paseo Del Sur, Suite 202
Scottsdale, Arizona 85258

Colorado

1200 W. Mississippi Ave.
Denver, CO 80223

Florida

951 Broken Sound Parkway, Suite 108
Boca Raton, Florida. 33487

Ohio

9902 Carver Road. Suite 203
Blue Ash, Ohio 45242

Tennessee

6031 Century Oak Drive
Chattanooga, Tennessee. 37416

Virginia

9962 Brook Road, Suite 607
Glen Allen, Virginia. 23059

Canada

8 King St. East, Suite 1801
Toronto, Ontario. M5C 1B5

Sales Enquiries

sales@route1.com

+1 866-371-1780

+1 416-814-2608