Genetec Patroller™ Administrator Guide 6.7

Date: 2024-05-02

1 | Getting started

1.1 | About Security Center AutoVu

The AutoVu™ automatic license plate recognition (ALPR) system automates license plate reading and identification, making it easier for law enforcement and for municipal and commercial organizations to locate vehicles of interest and enforce parking restrictions. Designed for both fixed and mobile installations, the AutoVu™ system is ideal for a variety of applications and entities, including law enforcement, municipal, and commercial organizations.

Depending on the Sharp hardware you install, you can use AutoVu in a fixed configuration such as on a pole in a parking lot, or in a mobile configuration such as on a patrol vehicle.

You can use AutoVu for the following:

- Scofflaw and wanted vehicle identification
- City-wide surveillance
- Parking enforcement
- Parking permit control
- Vehicle inventory
- Security
- Access control

AutoVu system architecture

In an AutoVu system, Sharp cameras send license plate images to Genetec Patroller™ or Security Center to be matched against lists of vehicles of interest (hotlists) and vehicles with permits (permit lists). Alternatively, you can send read data for processing in the cloud or using FTP or HTTP.

The following diagram shows how a typical AutoVu system works:
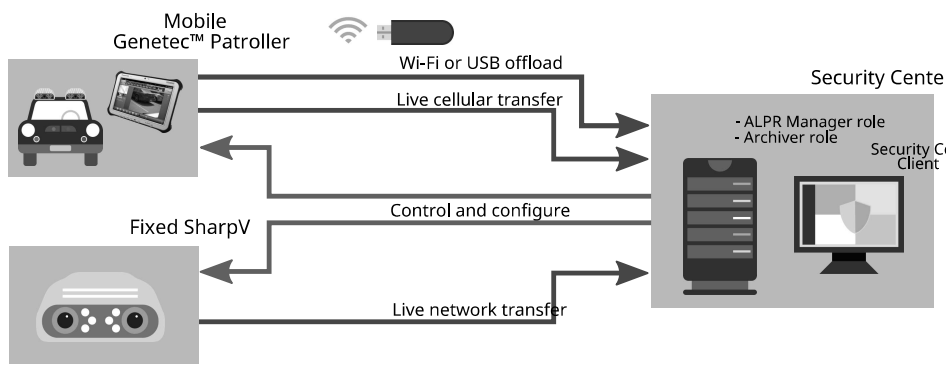
Watch this video to learn more. Click the Captions icon (CC) to turn on video captions in one of the available languages.
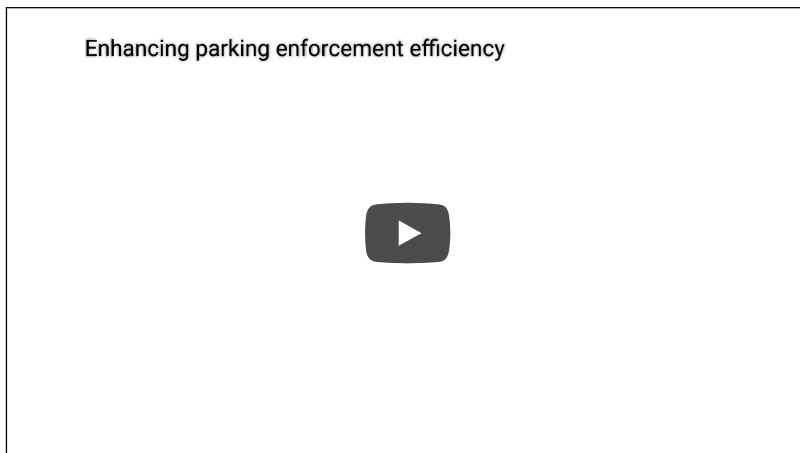
1.2 | About AutoVu mobile ALPR

Mobile AutoVu™ ALPR solutions use Genetec™ hardware and software installed in a patrol vehicle to capture license plate reads and analytics on the vehicle associated with each read.

All AutoVu hardware and software installed on a vehicle function in conjunction with the on-board Genetec Patroller™ software to collect ALPR data, process license plates through enforcement rules, and if required, transfer the collected data to the Security Center server for storage and later data mining operations.

The ALPR data collected from each vehicle can be transferred to the back office through a cellular data connection, a local Wi-Fi connection, or through a manual transfer via USB. After the data is transferred to Security Center, operators can generate reports to investigate vehicle infractions. This allows operators to search for specific plates and the locations they were spotted, or pull statistical data on the number of hits in a specific geographical region. The strong auditing capabilities of the system paired with its data mining capabilities make this a powerful force multiplier to add evidence to investigations.

SharpZ3 ALPR cameras

Depending on the hardware installed, a SharpZ3 system can support two or four SharpZ3 camera units. Each SharpZ3 camera unit includes three cameras: one color camera to capture a context image of the ALPR read, and two infrared ALPR cameras to capture the license plate. SharpZ3 camera units also have their own built-in illumination to ensure plates are well lit during the capture

process at any time of day.

The SharpZ3 camera units are connected to the SharpZ3 base unit which is usually installed in the trunk of the patrol vehicle. Depending on the requirements of the system, a two- or four-camera ALPR module can be installed in the base unit, and up to three expansion modules can be installed, which add additional features to the system such as navigation tracking and additional auxiliary cameras. The ALPR data that is retrieved contains the plate number, a time stamp of the moment of capture, the GPS location of the plate read, a color image of the moment of capture, and an infrared image of the license plate itself.

Patroller software and in-vehicle computer

Patroller is the software application installed on the in-vehicle computer. Patroller connects to Security Center to retrieve enforcement rules and upload captured license plate data. Genetec Inc. currently offers the Panasonic FZ-G1 ruggedized tablet as the in-vehicle computer.

Optional wheel-imaging

For time-limited parking enforcement, wheel-imaging cameras can be installed to virtually chalk the wheels of parked vehicles to establish whether they have has moved. This replaces manual chalking, where a parking enforcement officer physically marks a tire of a parked vehicle with chalk.
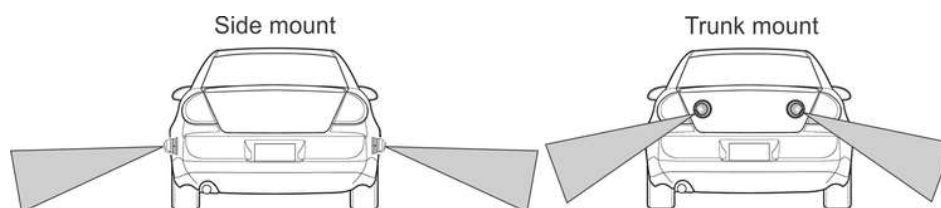
1.3 | Opening Genetec Patroller™ Config Tool

Genetec Patroller™ Config Tool is installed on your C drive with Genetec Patroller™. It does not appear in your Windows Start menu. You must navigate to the proper folder on your computer.

Procedure

1. On the in-vehicle computer, navigate to C:\Program Files (x86)\Genetec AutoVu 6.7\MobileClient.Security Center
2. Double-click PatrollerConfigTool.exe.

Results

Genetec Patroller™ Config Tool opens.

1.4 | Interface overview of the Genetec Patroller™ Config Tool

This section takes you on a tour of the main areas in the Genetec Patroller™ Config Tool user interface.
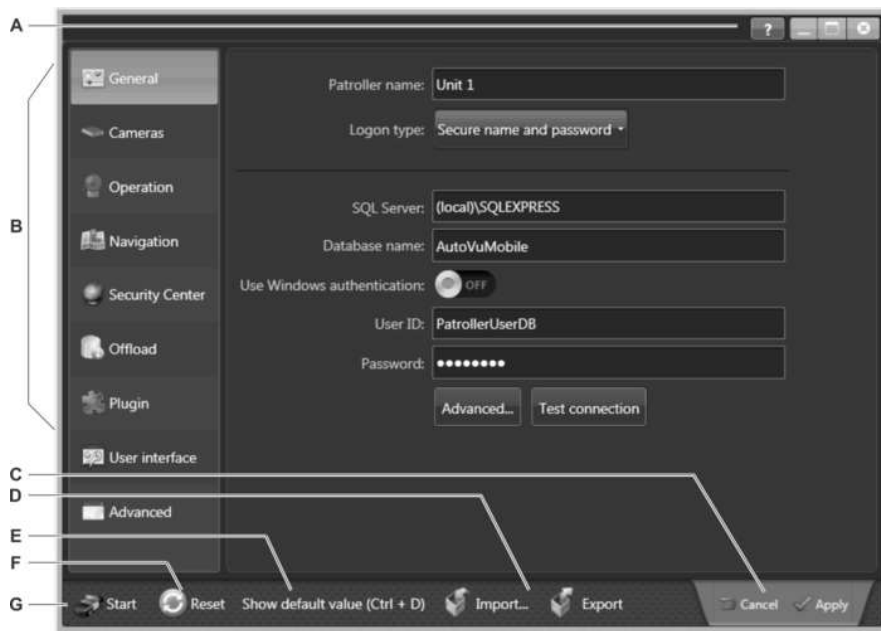
A	Contextual help	Click to open the product help. You can also press F1 on your keyboard.
B	Main menu	List of the different configuration pages in the Genetec Patroller™ Config Tool. Each page contains the related settings for that category. For example, the Security Center page includes settings for connecting and offloading to Security Center.
C	Apply/Cancel changes	This tab only appears after you have changed a setting. Click Apply to save changes. Click Cancel to undo your changes.
D	Import/Export settings	Import or export the configuration settings from one Genetec Patroller™ instance to another. This simplifies the deployment of multiple patrol vehicles.
E	Show default settings	Display the default settings on the current page.
F	Reset to default settings	Reset all settings to the default state.
G	Start Patroller	Click to start Patroller.

Browse

- Restoring default settings in Patroller
- Importing and exporting Patroller settings

1.5 | Restoring default settings in Patroller

You can restore a default Genetec Patroller™ setting at any time.

What you should know

The default values appear as an orange tag next to the option. Click the orange tag to reset the option to the default value.

Procedure

1. To see the default values for each setting on the current page, tap the Show default value button, or press Ctrl + D on your keyboard.

   An orange button displaying the default value appears next to each setting that has been modified.

2. To reset a default value, tap the orange button next to the setting.
3. Tap Apply.
4. Tap Show default value or press Ctrl + D on your keyboard to return to normal view.

1.6 | Importing and exporting Patroller settings

You can import or export the configuration settings from one Genetec Patroller™ instance to another, simplifying the deployment of multiple patrol vehicles.

What you should know

For example, if you have a fleet of patrol vehicles, you can configure one and then export the settings to the others. You cannot import settings between different versions of Patroller. For example, you cannot import settings from a 6.5 version of Patroller to a 6.7 version of Patroller.

- Before you import settings, your current settings are saved to a zip file on the patrol vehicle computer's desktop to be used as a backup if necessary.
- The imported Patroller settings will overwrite all current Patroller settings.
- If an error occurs during import, Genetec Patroller™ Config Tool will abort the import process and restore the old settings.

Procedure

1. Open Genetec Patroller™ Config Tool on the Patroller computer that is ready to export settings.
2. Click Export.

   A zip file is created on the patrol vehicle computer's desktop.

3. Copy the zip file to the patrol vehicle computer you want to configure.
   NOTE: You can keep the file on a USB key or network drive if you choose, but it must be accessible by the patrol vehicle computer you want to configure.
4. Open Genetec Patroller™ Config Tool on the patrol vehicle computer you want to configure.
5. Click Import.
6. Browse to the zip file with the Patroller settings you want to import.
7. Follow the on-screen instructions to proceed.

Results

After importing the new settings, Genetec Patroller™ Config Tool closes. When you re-open it, the new settings are applied.

2 | Installing Patroller

2.1 | Preparing to install Patroller

To make sure that your Genetec Patroller™ installation goes smoothly, you must perform a series of preconfiguration steps.

Before you begin

If Patroller is installed or upgraded by users who are not logged in as Windows administrators, you must ensure that these users have access rights to the Patroller installation folder. Note that the name of the folder changes with each major release.

Procedure

1. Read the *Genetec Patroller™ Release Notes* for any known issues and other information about the release.
2. Check the Patroller system requirements.
3. Check the SQL Express database requirements.
   The Patroller setup installs SQL Express 2022, which supports up to 10 GB of data for hotlists, permit applications, and overtime applications with wheel imaging.
   NOTE: License plate images are stored on the file system and they are excluded from the 10 GB limit.

Best Practice: If you are upgrading Patroller and you are still using an older version of SQL Express, you should let the Patroller setup program install SQL Express 2022.

4. Disable the Windows User Account Control security option.
   NOTE: Not applicable to Patroller Standalone.
5. (Windows 8.1) Enable Patroller clock synchronization with Security Center.
   NOTE: Not applicable to Patroller Standalone.

After you finish

Install Patroller.
Browse

- Configuring SQL server memory in Patroller

2.2 | Configuring SQL server memory in Patroller

Genetec Patroller™ Install Shield configures the memory correctly. For older systems, if you are using the Sharp with both context and wheel images in high-definition, then you'll need to configure the SQL server memory on the in-vehicle computer running the Patroller application.

What you should know

On the Patroller computer, you must set the SQL maximum server memory according to the RAM installed on the in-vehicle computer. In general, set the maximum to ¼ of the available memory. For example, if 8 GB of RAM are available, set the maximum to 2 GB which is represented as 2048 MB in the example below.

Procedure

To change the SQL server memory in SQL Server Management Studio:

1. In Object Explorer, right-click a server and select Properties.
2. Click the Memory node.
3. Under Server Memory Options, enter a Maximum server memory of 2048 MB.

To change the SQL server memory at the command prompt:

1. Depending on the version of SQL running, do one of the following:
   - For SQL 2022, type:
     Code

     ```
     cd C:\Program Files\Microsoft SQL Server\Client SDK\ODBC\170\Tools\Binn
     ```

   - For SQL 2014, type:
     Code

     ```
     cd C:\Program Files\Microsoft SQL Server\Client SDK\ODBC\110\Tools\Binn
     ```

   - For SQL 2012, type:
     Code

     ```
     cd C:\Program Files\Microsoft SQL Server\110\Tools\Binn
     ```

2. Type the following:
   Code

   ```
   Sqlcmd -S (local)\<name of DB server, ex: sqlexpress2022>
   sp_configure 'show advanced options', 1
   RECONFIGURE WITH OVERRIDE
   GO
   sp_configure 'max server memory', 2048
   RECONFIGURE WITH OVERRIDE
   GO
   ```

2.3 | Default Patroller ports

This section describes all default ports used by Genetec Patroller™. You can allow the Patroller setup program to automatically open these ports, or you can open them manually.

Application	Inbound	Outbound	Port usage	Executable
Patroller (in-vehicle computer)	TCP 8001		Communication with Simple Host	Patroller.exe
	TCP 4545	TCP 4545	Communication with mobile Sharp units	Patroller.exe
	TCP 4546		Time synchonization service for Sharp units	Patroller.exe
	TCP 8787		Patroller communication with Pay-by-Plate Sync plugin	Patroller.exe

Application	Inbound	Outbound	Port usage	Executable
		HTTP 2323	Used by the Patroller and the Sharp to determine which extension to load	Patroller.exe
		UDP 5000	Sharp camera discovery	Patroller.exe PatrollerConfigTool.exe
		TCP 8731	ALPR Manager connection	Patroller.exe
		HTTPS 443	Communication with Curb Sense™	Patroller.exe

2.4 | Disabling User Account Control in Patroller

Genetec Patroller™ does not accept remote updates or hotfixes from Security Center when the Windows User Account Control security option is enabled. You must disable it before installing Patroller.

What you should know

You can ignore this task if you are using Patroller Standalone.

Procedure

1. Log on to the in-vehicle computer as an administrator.
2. Open the Control Panel, and then click User Accounts and Family Safety > System and Security > Change User Account Control settings.
3. Drag the slider to its lowest setting (Never notify), and then click OK.
4. Restart the computer.

2.5 | Enabling Patroller clock synchronization with Security Center (Windows 8.1)

To offload accurate ALPR data such as timestamps for reads and hits, users on the Genetec Patroller™ computer must be granted permission to change the computer's system time. This allows the Patroller computer to synchronize its system clock with Security Center.

What you should know

- This procedure only applies to SharpX systems running Windows 8.1. For more information, see Patroller 6.7 computer hardware requirements for SharpZ3.
- You can ignore this task if you are using Patroller Standalone.

Procedure

1. Log on to Windows as an administrator.
2. Run `secpol.msc`.

   The Local Security Policy section of the Microsoft® Management Console appears.

3. Go to Local Policies > User Rights Assignment > Change the system time.
4. Click Add user or group.
5. Follow the on-screen instructions to add your Patroller users to the list.
   NOTE: Add their Windows credentials, not their Security Center or Patroller usernames.
6. Restart the computer.

2.6 | Installing Patroller

This section explains how to install Genetec Patroller™ software on the patrol vehicle's in-vehicle computer.

Before you begin

Prepare to install Patroller.

Procedure

1. Double-click Setup.exe in the root folder of the Patroller installation package.
2. Select the installation language (English or French), and click Next.
3. If you are prompted to install any missing prerequisites, click Install. A reboot might be required.
4. Once the prerequisite software is installed, in the InstallShield Wizard Welcome window, click Next.
5. Read and accept the License Agreement, and then click Next.
6. In the Language Selection page, select the user interface language for Patroller applications, and click Next.
7. Select the default installation folder, and then click Next, or click Change to choose a different installation folder.
8. In the Patroller Connectivity page, select whether you want Patroller to connect to Security Center, connect to Genetec Curb Sense™, or to run in stand-alone mode.
9. If you chose to have Patroller connect to Security Center, select the Patroller configuration you want to install.
10. In the Maps Configuration Selection window, select whether or not to install maps.
    NOTE: Maps are mandatory for City and University Parking Enforcement.
11. In the Database Server Selection window, do one of the following:

- If SQL database server is not installed on the computer, select Install a new database server.

  This option installs Microsoft SQL Server 2022 Express Edition and creates a database instance called SQLEXPRESS.

- If SQL database server is installed on the computer, and you would like to use this database, select Use an existing SQL database server. In the Database Server list, select the existing SQL Server name.

  NOTE: The installer allows all characters, but SQL Server only supports names containing alphanumeric characters. Underscore is the only special character supported by SQL Server.
12. Click Next.

    You are prompted to select your database server authentication method:

    Windows Authentication
    Only users with Windows administrator privileges on the Patroller computer can access the Patroller database.

    SQL Server and Windows Authentication (mixed mode)
    This mode is the recommended authentication method. It allows users that do not have Windows administrator privileges to access the Patroller database. You must choose a Login and Password for the Patroller application to be able to access the database.
    Best Practice: Your password should be at least 8 characters long and should include at least one uppercase character, one lowercase character, one number, and one special character.
    NOTE: If you do not respect the password strength guidelines, Patroller is installed, but uses Windows authentication instead of the expected mixed mode. For more information, see [KBA-79168] Patroller installation in mixed mode changes to Windows Authentication mode.

13. Click Next.
    You are asked to select performance enhancement settings. For optimal database and image storage performance, it is recommended to select both options.
14. Click Next.
    You are asked to allow the setup program to automatically create firewall rules. This opens the required ports that Patroller needs to communicate with Security Center and the connected Sharp units.

    If you do not allow the setup program to open the ports, you will need to open them manually after the installation is complete.

15. Click Next.
16. Click Install.
17. When the installation is complete, click Finish.

After you finish

- If you did not allow the setup program to automatically create firewall rules, then open the default ports to ensure that all AutoVu™ components can communicate with each other.
- If you have anti-virus software, it is recommended to add the following paths and files to the exception list of your anti-virus software. Failure to do so might result in slower performance from Patroller and extended software load times.
  - C:\Program Files (x86)\Genetec AutoVu X.X
  - C:\Offload
  - C:\Program Files (x86)\Microsoft SQL Server
  - C:\ProgramData\Genetec

2.7 | Silent installation of Patroller

A silent installation is an automated way of installing software without user intervention. Genetec Patroller™ can be installed without any prompts or visual feedback using a Windows command line prompt.

You can customize the following options from the command line:

- Database server name
- Documentation installation
- Installation drive
- Installation language
- Maps usage
- Patroller configuration type
- Patroller connection method
- Reboot after installation
- SQL Server authentication method
- Windows Firewall exceptions list

Silent install command lines

Take note of the following when creating a silent install command line:

- The installation options are case-sensitive.
- Only include a space between each parameter. If the value includes a space, for example, a folder name, use double quotes.

Double quote if value contains spaces   **Space between installer options only**

"Genetec AutoVu Patroller Setup.exe" /silent   Parameter="Value"   Parameter="Value"
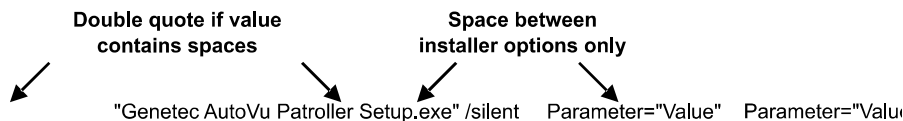
NOTE:

- A command line is limited to a maximum of 850 characters.
  Tip: One way to shorten the command-line length is to reduce the installation path length. You can do this by copying the installation files onto a local drive.
- You cannot use mapped drives in your path specifications.

2.7.1 | Installer options in Patroller

By including certain installer options in your Windows command line prompt, you can customize the Genetec Patroller silent installation.

The following table lists the installer options:

Option	Description
`ISInstallDir_Patroller`	Specifies the path where the software will be installed. • `ISInstallDir_Patroller=C:\MyChoiceOfFolder` • `ISInstallDir_Patroller=\"D:\Program Files\Genetec AutoVu X.Y\"` NOTE: In this example, (\") is required because the value contains spaces. If you do not specify a path, it will be installed at C: \Program Files\Genetec AutoVu X.Y.
`ADDLOCAL`	Specifies the features to be installed. • ALL (installs Genetec Patroller™ files and documentation) • Documentation (installs only Patroller documentation) If the ADDLOCAL option is omitted, Patroller files are installed without documentation. **Example**: `ADDLOCAL=ALL`
`CANUPGRADESQL` and `ALLOWSQLUPGRADE`	Allow the installer to upgrade your database server to SQL Express 2022 if your operating system supports it. The accepted values are: • 0 = Do not upgrade (DEFAULT) • 1 = Upgrade if your operating system supports it IMPORTANT: Back up your databases before the SQL Server upgrade. **Example**: `CANUPGRADESQL=1 ALLOWSQLUPGRADE=1`
`CONFIGURATION_MAPS_TYPE`	Specifies whether or not to use maps. Accepted values are: • UseMaps • DoNotUseMaps When omitted the default is DoNotUseMaps. **Example**: `CONFIGURATION_MAPS_TYPE=DoNotUseMaps`
`CONFIGURATION_TYPE`	Specifies the Patroller configuration type. Accepted values are: • Law • University • City • CityWheelImaging • MLPI Example: `CONFIGURATION_TYPE=Law`
`CREATE_FIREWALL_RULES`	Adds the installed Patroller applications to the Windows Firewall exceptions list. Possible values are 0 or 1. When omitted, the default value is 1. The accepted values are: • 0 = Do not create Firewall rules • 1 = Create Firewall rules **Example**: `CREATE_FIREWALL_RULES=1`
`DATABASE_SERVER`	Database server name. When omitted the default is "(local)\SQLEXPRESS".
`LANGUAGECHOSEN`	Language used by Patroller. The possible code values are: • Arabic - 1025 • Chinese (Simplified) - 2052 • Chinese (Traditional) - 1028 • Czech - 1029 • Dutch - 1043 • English - 1033 • French - 3084 • German - 1031 • Hebrew - 1037 • Hungarian - 1038 • Italian - 1040 • Japanese - 1041 • Korean - 1042 • Norwegian - 1044 • Persian - 1065 • Polish - 1045 • Brazilian Portuguese - 2070 • Spanish - 1034 • Thai - 1054 • Turkish - 1055 **Example**: `LANGUAGECHOSEN=1033` If you do not include a language installer option, English is used. If the language code is invalid, English is used.

Option	Description
PATROLLER_CONNECTIVITY	Specifies whether or not to connect to Security Center. Accepted values are: • "SecurityCenter" • "CurbSense" • "Standalone" **Example**: `PATROLLER_CONNECTIVITY="SecurityCenter"` When omitted the default is `"SecurityCenter"`.
REBOOT	This option allows you to force or suppress a reboot after the installation has ended. Possible values are: • F - To force a reboot when your installation is complete. • S - To suppress any reboot except the one caused by the ForceReboot action. • R - To suppress any reboot caused by Windows Installer actions. **Example**: `REBOOT=R`
SQLSERVER_AUTHENTICATION	Specifies the authentication method used to connect to SQL server. Possible values are 0 or 1. When omitted the default value is 1. The accepted values are: • 0 = Windows Authentication • 1 = SQL Server and Windows Authentication. If 1 is specified, you also need to specify SQLSERVER_PASSWORD for the password. **Example**: `SQLSERVER_AUTHENTICATION=0`
SQLSERVER_GROUP	Specify whether to use an existing SQL instance, or create a new one. The accepted values are: **NewServer** Create a new SQL instance. **ExistingServer** Use an existing SQL instance. **Example**: `SQLSERVER_GROUP=NewServer`

Parent topic: Silent installation of Patroller
Browse

- Sample Patroller silent installation commands
- Uninstalling AutoVu Patroller in silent mode

2.7.2 | Sample Patroller silent installation commands

Using the different installer options, you can create a Windows command line prompt to customize your Genetec Patroller™ silent installation.

This command creates a SQL Server instance in mixed mode. Patroller is installed at C:\Patroller. Maps are enabled.
Code

```
"Genetec AutoVu Patroller Setup.exe" /silent ISInstallDir_Patroller="C:\Patroller" PATROLLER_CONNECTIVITY="SecurityCenter" CONFIGURATION_TYPE="law" CONFIGURATION_MAPS_TYPE="UseMaps" SQLSERVEI
```

This command installs SQL Server with Windows Authentication.
NOTE: You must create the debug folder manually before you run the command line prompt.
Code

```
"Genetec AutoVu Patroller Setup.exe" /silent /DebugLog"C:\Temp\Logs\Patroller.log" /log"C:\Temp\Logs\" PATROLLER_CONNECTIVITY="SecurityCenter" CONFIGURATION_TYPE="Law" CONFIGURATION_MAPS_TYPI
```

This command uses an existing SQL Server in mixed mode.
Code

```
"Genetec AutoVu Patroller Setup.exe" /silent PATROLLER_CONNECTIVITY="SecurityCenter" CONFIGURATION_TYPE="Patroller" CONFIGURATION_MAPS_TYPE="UseMaps" SQLSERVER_GROUP=ExistingServer SQLSERVER_
```

This command uses an existing SQL Server with Windows Authentication.
Code

```
"Genetec AutoVu Patroller Setup.exe" /silent PATROLLER_CONNECTIVITY="SecurityCenter" CONFIGURATION_TYPE="Patroller" CONFIGURATION_MAPS_TYPE="UseMaps" SQLSERVER_GROUP=ExistingServer SQLSERVER_
```

Parent topic: Silent installation of Patroller
Browse

- Installer options in Patroller
- Uninstalling AutoVu Patroller in silent mode

Genetec Patroller™ can be uninstalled in silent mode without any prompts or visual feedback using a Windows command line prompt.

Procedure

Run the following command line prompt from the Full folder of the Patroller installation package: `"Genetec AutoVu Patroller Setup.exe" /silent /remove`
Parent topic: Silent installation of Patroller
Browse

- Installer options in Patroller
- Sample Patroller silent installation commands

2.8 | Installing BeNomad files on the in-vehicle computer

If your AutoVu™ Genetec Patroller™ license supports mapping, you can use Patroller's default mapping solution *BeNomad* to provide map and reverse geocoding information.

Before you begin

- (Law Enforcement only) Make sure that you installed the "Maps Engine" during Patroller installation in the *Map Configuration Selection* page.
- When your AutoVu license is created, you receive an auto-generated email with a zip file containing the *BeNomad* maps for your geographic location, and a unique .glic file that contains your license information. You'll need both these files to install *BeNomad*.

What you should know

All vehicles using Plate link must run the same map engine version. If you are using BeNomad, ensure that the .glic file version matches, for example, `Genetec_NAM-CAN-USA-MEX_NT_2020.2.glic`.

Procedure

1. Unzip the contents of the *BeNomad* zip file to your computer.

   A folder called BeNomad is created.

2. Copy the BeNomad folder to the Patroller's MobileClient folder on the in-vehicle computer.
   The MobileClient folder is the main program folder that includes the Patroller.exe and PatrollerConfigTool.exe files. In a default Patroller installation, this folder is created on the in-vehicle computer at C:\Program Files\Genetec AutoVu X.Y\MobileClient.
3. Copy the .glic AutoVu license file from the auto-generated email to the BeNomad folder on the in-vehicle computer.
4. Go to Navigation > Maps.
5. From the Mapping type list, select BeNomad.
6. Click Apply.
   NOTE: The Windows user account accessing the mobile client folder should have read and write permissions, other wise the map will always load zoomed out.

Results

BeNomad maps are enabled when you start Patroller.

2.9 | Adding non-administrator users

If your policy requires that Genetec Patroller™ users must not be administrators on the in-vehicle computer, you can configure the system to accept non-administrator user accounts.

Procedure

1. Log on to Windows using an administrator account.
2. Give the Users group read and write permissions to the folder: C:\Program Files (x86)\Genetec AutoVu 6.7.
   a. Right-click the folder and select Properties.
   b. Click the Security tab.
   c. Select the Users group and click Edit.
   d. Select Modify and Write permissions for the user group.
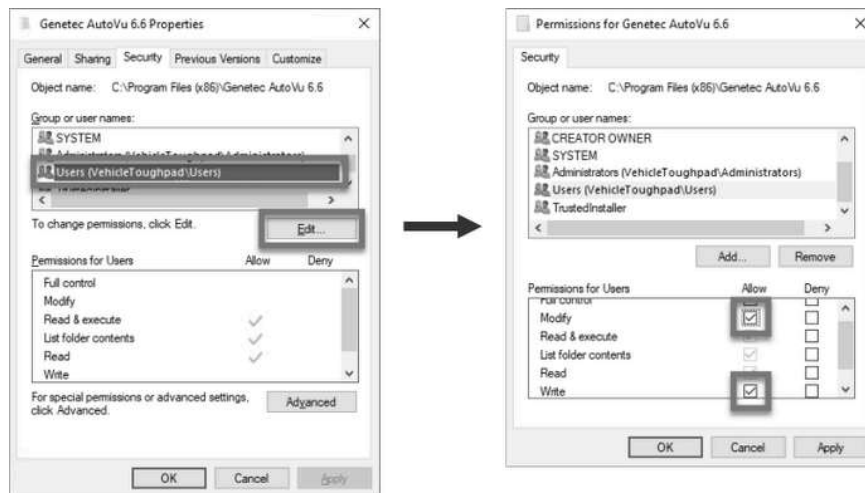
e. Click Apply.

f. Click OK.

3. Using the same steps, give the Users group read and write permissions to the folder: C:\ProgramData\Genetec\AutoVu Patroller.

4. Give the Users group permission to change the Windows clock.

    a. Run the *Local Security Policy* application.

    b. Navigate to Local Policies > User Rights Assignment.
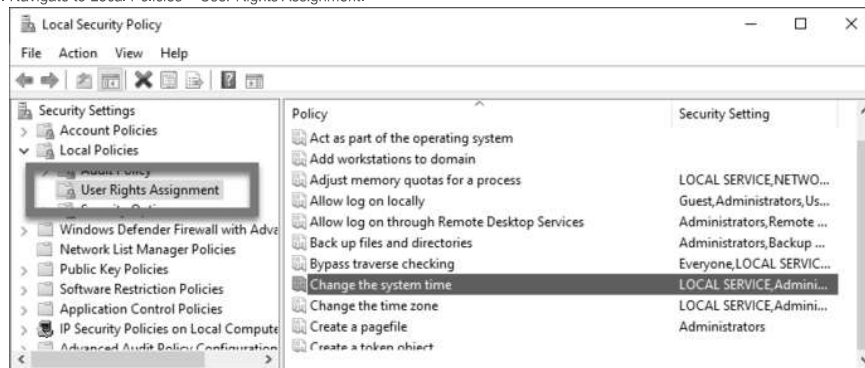
c. Double-click Change the system time.

d. Select Add user or group.
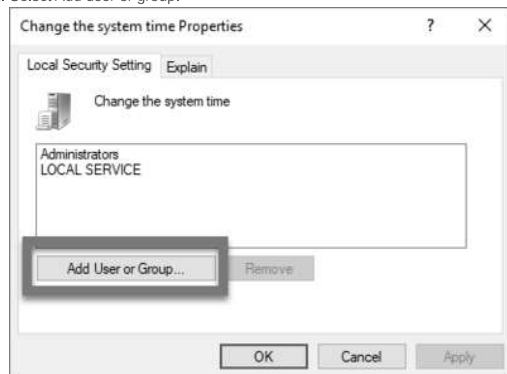
e. In the Enter the object names field, enter the user group that you created for the patrol vehicle and click Check names to validate the entry.
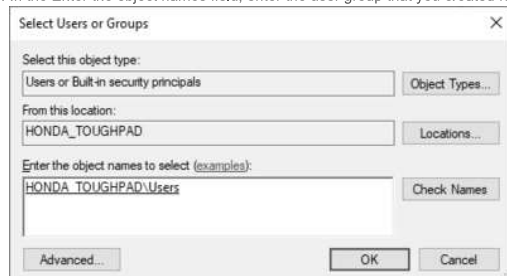
f. Click OK.

Permissions are added for the *Users* group.
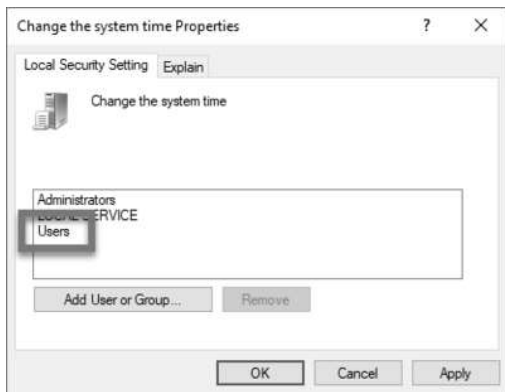
g. Click Apply.
h. Click OK.

3 | Updating and Upgrading Patroller

3.1 | Supported upgrades from earlier versions of Patroller

Certain versions of Genetec Patroller™ can be upgraded directly to the latest software version. Verify the upgrade path for your current version.

The following versions of Patroller can be upgraded directly to version 6.7.1:

- Patroller 6.3 to 6.7.0

NOTE:

- If your current Patroller version is earlier than 6.3, ask your AutoVu representative for assistance.
- Upgrading a Patroller system that is version 6.5 SR3 or earlier requires a database update that erases all operational information. Before upgrading Patroller, offload all license plate reads and hits.

3.2 | Upgrading Patroller

This section explains how to upgrade Genetec Patroller™ on your in-vehicle computer.

Before you begin

- Read the following Release Notes for any known issues and other information about the release:
    - *AutoVu™ SharpOS Release Notes*
    - *Genetec Patroller™ Release Notes*
    - *Security Center Release Notes*
- Offload any remaining data in the Patroller database.
- Close Patroller and Genetec Patroller™ Config Tool.
- If Patroller is installed or upgraded by users who are not logged in as Windows administrators, you must ensure that these users have access rights to the Patroller installation folder. Note that the name of the folder changes with each major release.
- If you are running a 32-bit version of SQL Server on a 64-bit operating system, uninstall the 32-bit version of SQL Server and install the version packaged with the Patroller installer. This is necessary so that the system can enable FILESTREAM.

What you should know

Your configuration settings are carried over from the previous version.

Procedure

1. Run the Setup.exe in the root folder of the Patroller installation package.
2. Select the language for the installer and click OK.
3. A message is displayed indicating that an earlier version of Patroller is installed. Click OK to confirm the upgrade.
4. Click Next to begin the upgrade, or click Cancel to stop the installation.
5. Read and accept the License Agreement, and then click Next.
6. Select the language for the Patroller interface and click Next.
7. Select the default installation folder, and then click Next, or click Change to choose a different installation folder.
8. On the Select Type page, select Complete or Custom installation.
9. If performing a Custom installation, click the Component arrow to display a list of installation choices. Select a component in the list. Under Feature Description, the requirements for each component are displayed. To remove the component, click This feature will not be installed on local hard drive.
10. To display the available space on the disk volumes of your machine, click Space.
11. On the Database Server Selection page, do one of the following:
    - If an SQL database server is not already installed on the computer, select Install a new database server.

      This option will install Microsoft® SQL Server 2022 Express Edition and create a database instance called SQLEXPRESS.

    - If SQL database server is already installed on the computer, and you would like to use this database, select Use an existing SQL database server. In the Database Server list, select the existing SQL Server name.
12. Click Next.
13. Select your database server authentication method and click Next.

Windows Authentication
Only users with Windows administrator privileges on the Patroller computer will be able to access the Patroller database.

SQL Server and Windows Authentication (mixed mode)
This is the recommended authentication method. It allows users without Windows administrator privileges to access the Patroller database. Choose a Password for Patroller to access the database.

14. On the Performance Enhancement page, it is recommended that you leave both check boxes selected and click Next.
15. Allow the setup program to automatically create firewall rules and click Next. This opens required ports that Patroller needs to communicate with Security Center and the connected Sharp units.
16. Click Install.
17. When the installation is complete, click Finish.
18. Upgrade the Patroller database:
    a. Start Patroller.
    b. In the notification area on the Windows taskbar, right-click the Patroller icon, and then select Database > Drop and exit.

    The Drop Database window appears.

    c. Click Yes to delete the database.

    Patroller closes when the database is deleted. A new database will automatically be created the next time you start Patroller.

Results

The Patroller upgrade procedure is complete.

After you finish

- If you did not allow the setup program to create firewall rules, open the default Patroller ports.
- Upgrade Plate Reader on the mobile Sharp units (described in a separate document). For more information, contact your Genetec representative.
- The following Patroller settings are reset to their factory defaults after upgrading:

Genetec Patroller™ window behavior
The Patroller window's initial size, position, and state (normal, minimized, maximized) are reset. You re-size and re-position the window manually, and you configure the window's state from the User interface section in Genetec Patroller™ Config Tool.

Map rotation behavior
The option to have the Patroller icon or the map rotate with vehicle movement is reset. You can configure this setting from Patroller's Options tab.

Main window display
The option to display the map or the vehicle's context image in the Patroller main window is reset. You can configure this setting by clicking the thumbnail map or image in the Patroller information panel.

Initial GPS position
The Patroller's initial GPS position is reset. This will automatically be adjusted as the Patroller vehicle starts moving.

MLPI Selection type
(Mobile License Plate Inventory only) The way you patrol a parking facility in MLPI is reset. You can choose between Route or Configuration when selecting a parking facility in Patroller.

Genetec Patroller™ location display
How Patroller displays the vehicle's current location is reset. You can tap the address in the notification bar at the top of the Patroller window to toggle between displaying the reverse-geocoded address or GPS coordinates.

- You can refer to your old Patroller configuration files to update the current Patroller settings. The files are located on the in-vehicle computer at the default location C:\Program Files\Genetec AutoVu X.Y\MobileClient\OldConfigFiles. The configuration files from the earlier versions remain in their original directory.
- If you're using maps, you'll need to install and configure BeNomad maps because *MapInfo* is no longer supported.

3.3 | Sound files used in Patroller

Genetec Patroller™ uses sounds to communicate information and to prompt the patrol vehicle operator to take action. The sound files are located on the in-vehicle computer in the folder: C:\Program Files\Genetec AutoVu X.Y\MobileClient\Config\Sounds (default location).

The following .wav sound files are included:

Ambiguity
Indicates that Patroller is configured to automatically select the zone, but operator confirmation is needed.

CalibrationError
Indicates that an AutoVu™ Navigation system calibration step was not successful

CalibrationInstruction
Indicates the next step in the AutoVu Navigation calibration

EnterZone
Indicates that the patrol vehicle has entered a parking zone or overtime zone

ExitZone
Indicates that the patrol vehicle has exited a parking zone or overtime zone

HotlistHitEvent
Indicates that the license plate is included in a hotlist

NotificationError
Indicates that an error has occurred.

OvertimeHitEvent
Indicates that the parked vehicle has an overtime violation

PermitHitEvent
Indicates that the parked vehicle does not have the required permit to park in the zone

TooManyReadsEvent
Indicates that the maximum number of plates in the MLPI inventory has been exceeded

VehicleEvent
Indicates that a license plate has been read

3.4 | Changing sound files for ALPR events

You can add new sound files to Genetec Patroller™ to use for ALPR events by manually copying the files to the Patroller in-vehicle computer.

What you should know

- The sound files must be .wav format.
- You can replace a default sound file with a new sound file that has the same file name.

   Example: If you have a file called alert.wav, and you want to use it for a permit hit, you must rename your file to PermitHitEvent to match the default sound file name before copying it to the Sounds folder (either manually or through the updater service). This way it overwrites the default sound file, and Patroller can play it.

- Sounds for hotlist hits have more flexibility. You can overwrite the default sound HotlistHitEvent in the Sounds folder, or you can use a different filename for each hotlist loaded in Patroller, as long as you specify the path to each hotlist's sound file in Security Center Config Tool.
   Best Practice: New hotlist sound files can be stored anywhere on the in-vehicle computer, but you should keep them in the same Sounds folder as the default sound files. This makes it easier to update them later.

Procedure

To replace a sound file:

1. To overwrite the default sound files, do the following:
   a. Open the folder C:\Program Files\Genetec AutoVu X.Y\MobileClient\Config\Sounds.
   b. Rename your new sound file to match the default file you want to overwrite.
   c. Copy your renamed sound file to the Sounds folder so that it overwrites the default file.
2. Restart Patroller for your changes to take effect.

To configure a unique sound for each hotlist:

1. Copy your new sound file to any location on the in-vehicle computer.
2. Open Config Tool and select the ALPR task.
3. Select the hotlist to configure, and click the Advanced tab.
4. In the Sound file field, specify the path and filename to the sound file on the in-vehicle computer.
   To configure sounds for additional hotlists, repeat Steps 3 and 4.

4 | Configuring Patroller

4.1 | Naming the Patroller patrol vehicle

The *Patroller name* is the name of the patrol vehicle running Genetec Patroller™ as it will appear in Security CenterConfig Tool and Security Desk.

What you should know

The *Patroller name* is **not** the Patroller user's username. The username is set in Security Center Config Tool when you create a user. For more information on creating users and user groups, see the *Security Center Administrator Guide*.

Procedure

1. Open Genetec Patroller™ Config Tool.
2. Go to the General page.
3. In the Patroller name field, enter the name of the patrol vehicle as you want it to be seen in Security Center and Security Desk.
4. Click Apply.

Results

The Patroller name is detected automatically when you connect Patroller to Security Center. It will appear as a Patroller entity under the ALPR Manager.

4.2 | Configuring Patroller logon options

How a user logs on to Genetec Patroller™ is configured on the General page of Genetec Patroller™ Config Tool.

Procedure

1. Open Genetec Patroller™ Config Tool.
2. Go to the General page.
3. From the Logon type drop-down menu, select how you want to log on to Patroller:

No logon

No username or password required.

Windows logon

If the username logged into Windows matches a username in the *Patroller Users* user group in Security Center, the user will not be asked for a username or password when opening Patroller.

Secure name

Only the Patroller user's Security Center username is required.

Secure name and password

The Patroller user's Security Center username and password are required.

NOTE: You create usernames and passwords in Security CenterConfig Tool when configuring users and user groups.

4. Click Apply.

4.3 | Configuring Patroller database options

The Genetec Patroller™ database options are configured on the General page of Genetec Patroller™ Config Tool.

Procedure

1. Open Genetec Patroller™ Config Tool.
2. Go to the General page.
3. Beside SQL server, select the address and name of the SQL server.
4. In the Database name field, you can leave the default database name, or change it if desired.

   You can change this name at any time to create a new database.

5. Beside Use Windows authentication, do one of the following:
   - Turn this setting on to use your Windows credentials to connect to the database.
   - Turn this setting off to use the specific User ID and Password you specified during Patroller installation to connect to the database.
6. In the User id field, enter the User ID to connect to the Patroller database. This User ID was entered during Patroller installation.
7. In the Password field, enter the password to connect to the Patroller database. This password was entered during Patroller installation.
8. Click Advanced to configure the following:

   Max logout

   Set the amount of time (in hours) that a user can be logged out and still resume their shift when logging back on. When this period has elapsed, or if a different user logs on, the system sees this as the start of a new shift and the data presented to the user reflects that. A value of 0 deactivates this feature, meaning that a new shift begins anytime a user logs in. The default logout time is 4 hours.

   Store reads for

   Set the amount of time that reads are stored in the Patroller database. Reads older than this value are deleted from the database at the start of the next shift. The default storage time is 96 hours.

   Store hits for

   Set the amount of time that hits are stored in the database. Hits older than this value are deleted from the database at the start of the next shift. The default storage time is 120 hours.

   Record search

   Set the amount of time that records (reads or hits) are searchable by the Patroller user. Records older than this value will no longer be searchable at the start of the next shift. The default search time is 48 hours.

   Record display

   Set the amount of time that a record can be displayed. The default time is 12 hours.

   Folder path

   Click browse or type the folder path where the system stores the ALPR images, context images, and wheel images associated with overtime enforcement. The default location is C:\Program Files (x86)\Genetec AutoVu 6.7 \Data.

   WARNING: License plate read images are now stored directly on the file system. Image files are not encrypted because SQL Server Express does not support FILESTREAM encryption. You can manage access to the image folder using NTFS or a device encryption solution such as BitLocker.

   IMPORTANT:
   - Ensure that the disk has enough free space to store the database and license plate read images according to the retention period.
   - Exclude the folder path from the antivirus scan running on the computer.
   - If you change the folder path, ensure that the new folder has read-write access authorization.

   Offload query timeout

   Define the timeout duration for the offload queries. The default timeout is 1800 seconds.

   Extra parameters

   The string to connect to the Patroller database.

   NOTE: You should not need to configure this option since SQL is installed automatically, or an existing SQL instance is used when you install Patroller.

9. Click Test connection, to test the connection to the Patroller database with the options selected.
10. Click Apply.

4.4 | Methods for sending reads to Genetec Server

Several methods are available for transmitting license plate reads from Genetec Patroller™ to Genetec™ Server. Reads can be automatically sent live to Security Center or Curb Sense™ using a cellular connection, they can be directly offloaded at the end of the shift using Wi-Fi, or they can be manually offloaded using a USB drive.

4.4.1 | Sending live events from Patroller to Security Center

If the patrol vehicle has a cellular connection, you can select certain events to be automatically sent from Genetec Patroller™ to Security Center as they occur. This method is ideal for parking or law enforcement systems where hits are sent to a central office for review or enforcement.

What you should know

- Patroller login and logout events are not sent using the live events method. To send these events, you must also use the *offload* method. For more information, see https://techdocs.genetec.com/access/sources/dita/topic?ft:clusterId=EN/PT/R_PT_OffloadPage&ft:locale=en-US
- If the patrol vehicle loses its cellular connection and then the connection is restored, Patroller sends the missed reads to Security Center, but it does not send the missed patrol vehicle position data. The position data must be offloaded using the *offload* method at the end of the shift.
- If you select only certain events to send live to Security Center, you can send the rest of the events at the end of the shift using the *offload* method.

Procedure

1. From the homepage in Security Center Config Tool, click System > Roles, and then select the ALPR Manager you want to configure.
2. Click the Properties tab, and then click Live.
3. In the Listening port option, select the port to listen for connection requests coming from Patrollers.
4. To encrypt the communication between Security Center and Patroller Config Tool, select the Encrypt communication channel option.
   IMPORTANT: This setting also needs to be applied in Patroller Config Tool.
5. To allow Security Center to still accept incoming connections from Patrollers that do not have the encryption option enabled, select the Access non encrypted messages option.
6. Click Apply.
7. Open Genetec Patroller™ Config Tool .
8. Go to Security Center, and turn on the Connect to Security Center option.
9. Enter the IP address of the Security Center machine hosting the ALPR Manager role.
10. Enter the Port number Patroller should use to connect to the ALPR Manager role.
11. If you chose the Encrypt communication channel option in Security Center Config Tool, turn the on the Encrypt communication channel option.
12. Select which Live events you want to send to Security Center.
    NOTE: When selecting which events to send to Security Center, consider the cellular bandwidth that will be required to send the data.
13. Beside Periodic transfer, specify how often hotlist and permit list changes are downloaded to Patroller (if you have a live connection). The default transfer period is every 240 minutes. You can disable Periodic transfer on specific hotlists (not permit lists) in Config Tool on the hotlist's Advanced page. For more information, see the *Security Center Administrator Guide*.
14. Click Apply.

Parent topic: Methods for sending reads to Genetec Server

4.4.2 | Offloading reads to Security Center

If the patrol vehicle operator offloads the license plate reads at the end of the shift, you can use the *offload* method to select which events are offloaded from Genetec Patroller™ to Security Center. You can then offload using Wi-Fi, or save a local file.

What you should know

The *offload* method can be used in conjunction with Security Center *live events* method. For example, you can configure hit events to be sent live using cellular communication, and then offload all plate reads at the end of the shift using Wi-Fi or a USB drive. Security Center ignores data that it has already received.
NOTE: If you are using cellular data to transmit the license plate reads, when selecting which events to send, consider the cellular bandwidth that will be required to send the data .

Procedure

1. Open Patroller Config Tool.
2. Go to Offload.
3. From the Offload method drop-down, choose your offload method:

   None
   Does not offload data.

   Local file
   You can configure Patroller to offload data to a file on the in-vehicle computer. You can then transfer the file to Security Center.

   Offloading to Security Center
   After you have offloaded the data to a local file, you can copy the data to a USB drive using the Patroller Transfer Tool. You can then use the Patroller Transfer Tool to transfer the file to the Security Center server.

   Using Patroller Standalone
   After you have offloaded the data to a local file, you can open the Offload.xml file in an XML editor, or you can use the Patroller Transfer Tool to save the file on a USB drive and import it into your own reporting tool.

   Live Transfer
   This offload method transfers all data from the Patroller vehicle to Security Center using a wireless connection. For example, you can offload your data at the end of a shift, when you are in range of the company's wireless network.
   NOTE: Please note the following about Live transfer:
   - This option automatically transfers the offload data into the Offload folder under the ALPR Manager root folder. For more information about the ALPR Manager root folder, see Configuring the ALPR Manager role.
   - If you try to offload without being connected to Security Center, the offload is done on your local in-vehicle computer. The files will be sent to Security Center when the connection is reestablished.
   - You cannot offload to a network drive.

4. Configure the following settings:

   Local offload drive
   If using Local file as your offload method, specify where on your machine the data should be saved, for example, C:\ if you want to offload to your C drive.

   Use encryption
   Turn on to encrypt the offloaded data. You will also need the Public key (not applicable to Patroller Standalone).

Public Key

To encrypt offload data, Patroller needs the public key from the Security Center computer. Do the following:

   a. On the Security Center computer, go to C:\Program Files\Genetec Security Center <your version>, and copy the OffloadPublicKey.xml file to your clipboard.

   b. On the Patroller computer, go to C:\Program Files\Genetec AutoVu X.Y\MobileClient, and paste the OffloadPublicKey.xml in the folder.

   c. In the Public key field, enter the path to the public key you just pasted to the Patroller computer (C:\Program Files\Genetec AutoVu X.Y\MobileClient\OffloadPublicKey.xml).

Offload events

Select the ALPR events you want to include in offloads. For example, you might choose to offload only certain types of hits to use less bandwidth.

Hits

Offload hits with the following status:

Enforced hits

The user acknowledged that the license plate image matches the hit information and tapped *Enforce*.

Not enforced hits

The user acknowledged that the license plate image matches the hit information but tapped *Do not enforce*.

Rejected hits

The user acknowledged that the license plate image did not match the hit information by tapping *Reject*.

Reads

Offloads all license plate reads.

Unit position

Send the live position of the patrol vehicle to Security Center.

Include all images

Turn on to offload all images. If this option is turned off, only images associated with a hit are included in the offloaded data.

Incremental offload

By default, Patroller offloads data in increments, or segments. Turn this setting off if you want to offload the full data file each time.

Data segment size

Specify the maximum file size of each data segment (MB) when using Incremental offload. Once the offload file reaches the size limit, a new offload file is created and the offload process continues. The default maximum file size is 1 MB.

Force offload before exit

Turn on to make Patroller exit commands unavailable. The only way to close the application is to perform an offload.
NOTE: This option will not work if you set Offload method and Action after offload to None.

Action after offload

Select the exit procedure that occurs after you have performed an offload:

None

Return to the application.

Exit

MobileServer, MobileClient, and IO.Services are exited.

Shutdown

If the *PowerManagement.UsePowerManagement* option is selected, the OffloadExit setting is automatically set to Shutdown. This option does not work with laptops; choose Exit instead.

Delete after offload

Turn on to delete all records of user logins, images, hotlist hits, vehicles, unit states, street blocks, tire images, cameras, and attributes after a successful offload.

Parent topic: Methods for sending reads to Genetec Server

4.4.3 | Connecting Patroller to Curb Sense

When you connect Genetec Patroller™ to Genetec™ Curb Sense™, it allows the patrol vehicle to send license plate reads to the Curb Sense back office for processing.

What you should know

- To use this connection method, you must have an active Curb Sense account. If you do not have an account, contact your Genetec representative.
- In a Curb Sense system, Patroller sends plate read metadata live, but image data is sent on-demand if evidence is required for a license plate hit.

Procedure

1. Open Patroller Config Tool.
2. Go to Operation > Curb Sense™.
3. From the Region menu, select the region in which the patrol vehicle is located.
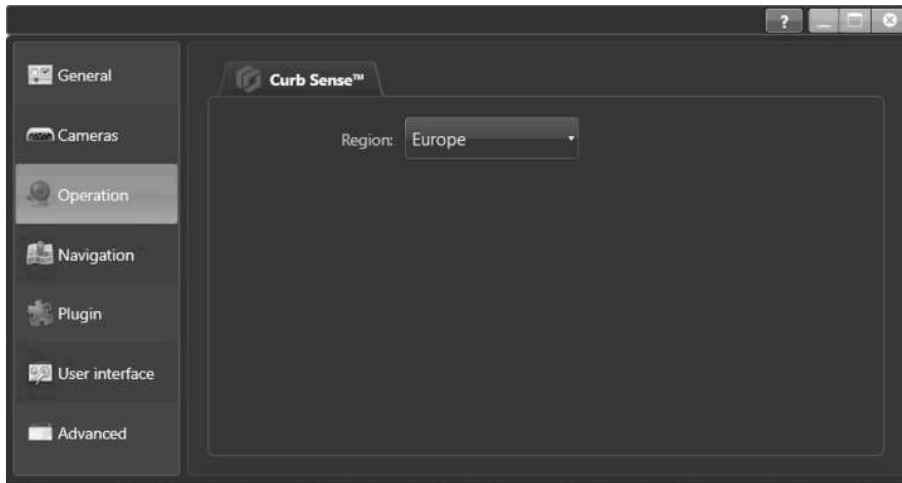
4. Click Apply.

Parent topic: Methods for sending reads to Genetec Server

4.4.4 | Using the Patroller Transfer Tool

You can use the Patroller Transfer Tool to transfer reads, hits, and other data between Genetec Patroller™ and Security Center using a USB drive. You must use this tool to transfer files if Patroller is not connected to Security Center by Wi-Fi or cellular.

What you should know

- You can launch the Patroller Transfer Tool from C:\Program Files (x86)\Genetec AutoVu 6.X\Tools.
  NOTE: It is recommended that you copy the tool to a USB drive so that it can be installed on the Security Center server machine.
- If you are using the *offload* method to send reads to Security Center, you must use the tool to transfer the file to a USB drive, and then again to transfer the file from the USB drive to the Security Center computer. For more information, see Offloading reads to Security Center.
- The tool transfers the contents of the configured RootFolder (default location: C:\Genetec\AutoVu\RootFolder\ManualTransfer).
  The following data is transferred:
    - Offload files (including reads and hits)
    - Permits
    - Hotlist
    - Patroller settings and users
    - Matcher settings
    - Zones

Procedure

1. Launch the Patroller Transfer Tool.
2. From the *Where is this tool running from?* page, select whether you are running the tool on Patroller or Security Center Server.
   NOTE: This page is only displayed the first time that you run the tool.

3. The tool guides you through the process of selecting your ALPR Manager root folder (in Security Center), selecting your USB media device, and starting the file transfer.
   NOTE: A Security Center system can have more than one ALPR Manager role, and each role has its own root folder. The default location is C:\Genetec\AutoVu.
4. When the file transfer is complete, the tool ejects your USB media device.

Parent topic: Methods for sending reads to Genetec Server

4.5 | Connecting mobile Sharp units to Patroller

Sharp units are automatically added to the in-vehicle network so they can capture license plates and send the data to Genetec Patroller™ and Security Center.

What you should know

- By default, if Sharp camera units are connected to the base unit, they are automatically detected by Patroller and added with the following default orientations:

  ALPR port 1
  Front-left

  ALPR port 2
  Front-right

  ALPR port 3
  Rear-left

  ALPR port 4
  Rear-right

- If you add the Sharp camera units manually, you must specify the orientation for each unit.

Procedure

1. Open Genetec Patroller™ Config Tool.
2. Go to the Cameras page. The default IP addresses for the connected camera units is displayed.
   - Default port for ALPR module ports 1 and 2: 192.168.10.1
   - Default port for ALPR module ports 3 and 4: 192.168.10.2
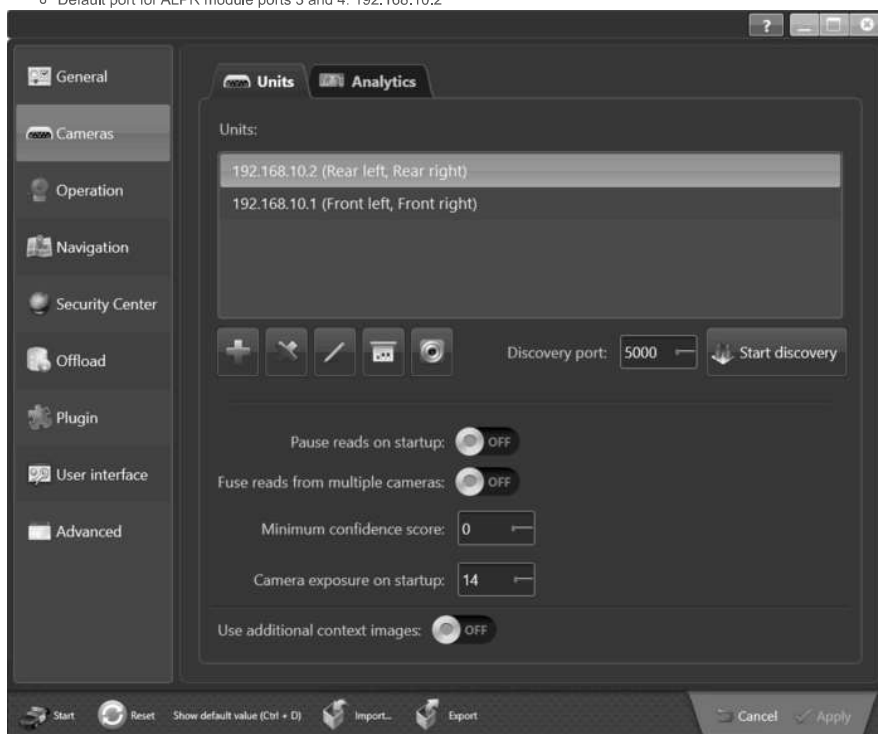
3. Make sure each camera in the Units list has the correct orientation. To do this, click on a camera, click the Edit button ( ), and then change the orientation of the camera to match where it is located on the vehicle.
   IMPORTANT: Do not modify the camera names. They are case sensitive and must appear exactly as shown: *Lpr Camera* and *Lpr Camera 2*.
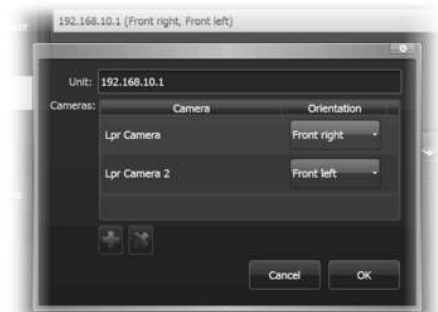
   NOTE: Depending on the hardware installed, you might see up to two cameras (SharpZ3) or four cameras (SharpX) controlled by a single unit. For more information on camera options, see the *Deployment Guide* for your SharpX or SharpZ3 system.

   Tip: Tap Video ( ) to verify that you have correctly configured the camera orientation.

4. If you want to manually add a Sharp camera instead of using the automatic discovery feature, click the Create button ( ), and do the following:
   a. Under Unit, enter the Sharp unit's IP address, for example, *192.168.10.1*, or the Sharp name as it appears on the base unit's label, for example, *Sharp1234*.
      Depending on the hardware options, SharpX or SharpZ3 systems can contain one or two SBCs (Single Board Computers) which are referred to here as *Units*.

Hardware	Options	SBC (unit)	Cameras per SBC (max)
SharpZ3	2-camera ALPR module	1	2
	4-camera ALPR module	2	2
SharpX	X1S or X1SU ALPR Processing Unit	1	4
	X2S or X2SU ALPR Processing Unit	2	2

   b. When more than one camera is connected to an SBC, click the Create (➕) button to add additional cameras.

      IMPORTANT: Enter camera names as "Lpr Camera" and "Lpr Camera 2" (case-sensitive).

   c. Choose the camera's orientation from the drop-down list.

5. Click Pause reads on startup if you want to start Patroller with plate reading paused.

6. For patrol vehicles that are configured with forward-facing and rear-facing cameras, you can Fuse reads from multiple cameras to improve the capture rate and read rate. If the vehicle includes front and rear-facing cameras, enabling this feature associates the cameras that might read the same license plate. This means reads from both left-facing cameras are fused and reads from both right-facing cameras reads are fused.

You might want to configure read fusing if license plates in on-street parking are sometimes missed because vehicles are parked too close together. When read fusing is activated and two Sharp cameras read one or both of the vehicle's plates, only the best plate read from the two fused cameras is kept. The other plate read is discarded.

IMPORTANT: To fuse reads, you must enable the *Give a confidence score for reads* feature in the Analytics section of the Sharp Portal Configuration page.

NOTE: When this feature is enabled, there is a short plate read delay which allows both cameras to read the plate and then display the image with the best confidence score. You can configure how long the system waits for the second plate read (*Maximum latency* default: 3 seconds) in the Advanced configuration page.

7. Configure the Minimum confidence score.

You might want to configure a minimum confidence score if you notice too many incorrect reads. License plates that contain similar characters such as *8* and *B* are more difficult to read and generally produce reads with a lower confidence score.

The Sharp camera assigns a numerical value (from 0 to 100) to each license plate read, indicating how confident the Sharp is in the accuracy of the read. Patroller ignores reads that are below the minimum confidence score you define.

IMPORTANT: For the confidence score analytic to be available in Patroller, the analytic must first be enabled in the Sharp Portal.

NOTE: Setting the minimum confidence score to *0* (default) accepts all plate reads and hits.

To decide on an appropriate setting, you can view the confidence score of plate reads in the following ways:

    ○ Configure Patroller to display the confidence score with all reads and hits in the Cameras - Analytics tab in Genetec Patroller™ Config Tool.

    ○ Add *Confidence Score* (case sensitive) as an annotation field in Security Center so that you can query it in Security Desk reports. For more information, see *Adding user custom fields to reads and hits* in the *Security Center Administrator Guide*.

8. (Optional) Configure the Camera exposure on startup.

In general, higher exposure is for darker environments, and lower exposure is for brighter environments.

NOTE: Sharp cameras have auto-exposure capability that compensates for different plate reflectivity, as well as exterior ambient light. You shouldn't need to change the default value for this setting.

9. Click Apply.

Results

The Sharp cameras are now connected to Patroller, and you can see the live feed from the Patroller application.

4.6 | Enabling Patroller GPS settings

If you are using Genetec Patroller™ with GPS, you must configure the related settings in Genetec Patroller™ Config Tool. These settings apply to the USB GPS that connects directly to the in-vehicle computer.

Procedure

1. Open Genetec Patroller™ Config Tool.
2. Go to Navigation > Equipment.
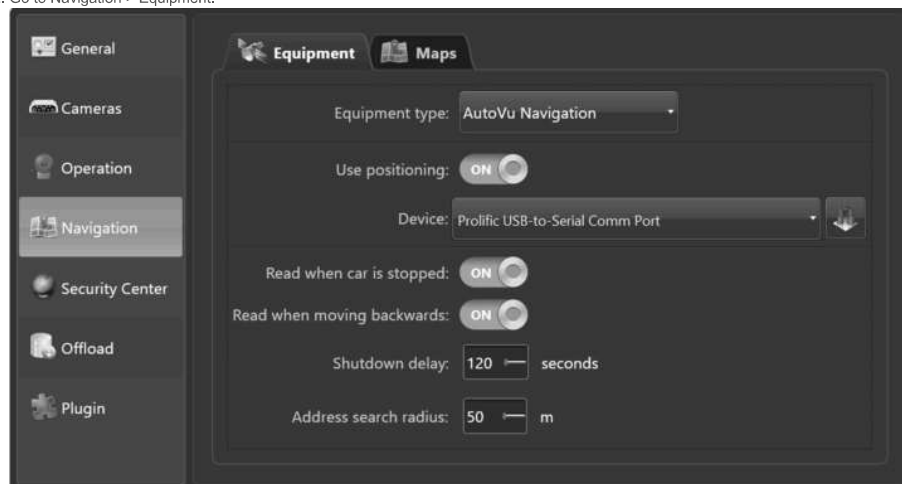
3. From the Equipment type list select External GPS, and then configure the following:

Device

Click in the field to open the Select device dialog box. Choose the appropriate USB device and click OK > Apply.

4. Click Advanced and configure the following:

Baud rate
The speed of the GPS communications channel (serial port). The default value is 9600, but some USB GPS devices require a reduced speed of 4800. For example, if you are using the USB GPS antenna that connects to the in-vehicle computer (model number BU-353), the baud rate value is automatically set to 4800.

(Optional) Force port
Turn this option on when you want to make sure that Patroller uses the port configured in Genetec Patroller™ Config Tool. This is useful when you are using two USB GPS devices and you want to prevent Patroller from automatically switching to the other GPS port if it cannot detect the GPS port specified in Genetec Patroller™ Config Tool.

Port
When the GPS is configured the port is automatically detected by Patroller during startup.

GPS initialization string
Displays the initialization commands to be sent to the GPS device when you log on to the application.
IMPORTANT: Do not modify. This is the default firmware setting.

Consecutive invalid strings before restart
Specify the number of consecutive invalid GPS strings allowed before the device is restarted. Invalid GPS strings happen when the GPS signal cannot be detected. The default number is 10.
IMPORTANT: Do not need to change this setting.

Noise
Specify the noise value. If the distance from 0,0 to the GPS position is less than the value you define, no GPS event is generated. The default noise value is 5.
IMPORTANT: Do not need to change this setting.

5. If you want to continue reading plates when the patrol vehicle is stopped, set Read when car is stopped to ON.
   This feature is generally enabled for law enforcement and repossession vehicles.
6. If you want to continue reading plates when the patrol vehicle moves in reverse, set Read when moving backwards to ON.
   When doing parking enforcement, patrol vehicles tend to reverse frequently.
7. Patroller associates a location to each plate read by searching for the closest street name within a 50 m (164 ft) radius. In rural areas where there are fewer streets, you can increase the Address search radius to ensure that at least one street name can be associated.
   NOTE: If you use a large radius in an urban area, you might notice system lag due to excessive search results.
8. Click Apply.

Results

The GPS settings for Patroller are configured.

After you finish

Installing the GlobalSat GPS driver.

4.7 | Enabling Patroller Navigator Box GPS settings

If you are using Genetec Patroller™ with a SharpX system that includes the AutoVu™ External Navigator Box, you need to configure the settings that apply to the GPS antenna connected to the Navigator box in Genetec Patroller™ Config Tool.

Before you begin

Install the u-blox GPS driver on the Patroller computer. For more information, refer to the *Genetec Patroller™ 6.6 Administrator Guide* .

Procedure

1. Open Genetec Patroller™ Config Tool.
2. Go to Navigation > Equipment.

3. From the Equipment type list, select External Navigator box.
4. Turn Use GPS to ON, then configure the following:

   Device
   Click in the field to open the Select device dialog box. Choose the appropriate USB device and click OK > Apply.
   NOTE: If the GPS device does not appear in the list, restart Patroller.

5. Click Advanced and configure the following:

   Baud rate
   The speed of the GPS communications channel (serial port).
   IMPORTANT: You should not need to change this setting for the External Navigator Box.

   (Optional) Force Port
   Turn this option on when you want to make sure that Patroller uses the port configured in the Genetec Patroller™ Config Tool. This is useful when you are using two USB GPS devices and you want to prevent Patroller from automatically switching to the other GPS port if it cannot detect the GPS port specified in Genetec Patroller™ Config Tool.

   Port
   Specify the COM port number of the GPS device as seen in Windows Device Manager. The name of the device is *u-blox 5 GPS and GALILEO Receiver*.

   GPS initialization string
   Displays the initialization commands to be sent to the GPS device when you log on to the application.
   IMPORTANT: Do not modify. This is a default firmware setting.

   Consecutive invalid strings before restart
   Specify the number of consecutive invalid GPS strings allowed before the device is restarted. Invalid GPS strings happen when the GPS signal cannot be detected. The default number is 10.
   IMPORTANT: You should not need to change this setting.

   Noise
   Specify the noise value. If the distance from 0,0 to the GPS position is less than the value you define, no GPS event is generated. The default noise value is 5.
   IMPORTANT: You should not need to change this setting.

6. Turn Use odometry to ON if you want to use the car's odometry system then configure the following:

   Reverse signal active when
   This option confgures if the reverse signal is active HIGH or LOW while using the Navigator box. When the option is ON, the signal is active HIGH.

7. Click Advanced then configure the following:

   Scale
   Value specified during system calibration.

   Sensitivity
   Navigator box's sensitivity as measured during calibration using the Oscilloscope tool.

   GPS distance tolerance
   Maximum GPS distance correction allowed (in meters) when using odometry.

   GPS odometry calibration tolerance
   Acceptable odometry calibration error (in meters).

8. If you want to continue reading plates when the patrol vehicle is stopped, turn Read when car is stopped to ON.
9. If you want to continue reading plates when the patrol vehicle moves in reverse, turn Read when moving backwards to ON.
   NOTE: When doing parking enforcement, patrol vehicles might stop and reverse frequently.
10. Specify the Shutdown delay. This delay is the number of seconds to wait after the vehicle's ignition is turned off before shutting down the in-vehicle computer. To disable this feature, enter "0".

11. Click Apply.

Results

The GPS settings of the Navigator box are configured.

4.8 | Process Overview: AutoVu navigation configuration

If the mobile Sharp system includes navigation capabilities, you must configure and calibrate the system to ensure that accurate location information is associated with ALPR reads and hits.

What you should know

These steps apply to the following systems:

- SharpZ3 systems that include the navigation expansion module
- SharpX ALPR Processing Units that include the AutoVu™ navigation option

Procedure

1. Enable the AutoVu navigation settings in Genetec Patroller™ Config Tool. This is where you select your navigation hardware and configure system settings.
2. Specify the position of the GNSS antenna and the navigation module relative to the center of the rear axle of the patrol vehicle to get accurate navigation values.
3. Calibrate the AutoVu navigation hardware. This is where you drive the vehicle while following on-screen instructions to calibrate the system.

4.8.1 | Enabling AutoVu navigation settings

If you are using Genetec Patroller™ with the AutoVu™ navigation hardware, you need to configure the related settings in Genetec Patroller™ Config Tool. These settings allow you to calibrate and monitor the positioning hardware, and to configure the GNSS antenna.

Before you begin

- Connect your Sharp mobile units to Patroller.
- Start up the AutoVu base unit and do not turn it off during the procedure.

Procedure

1. Open Genetec Patroller™ Config Tool.
2. Go to Navigation > Equipment.
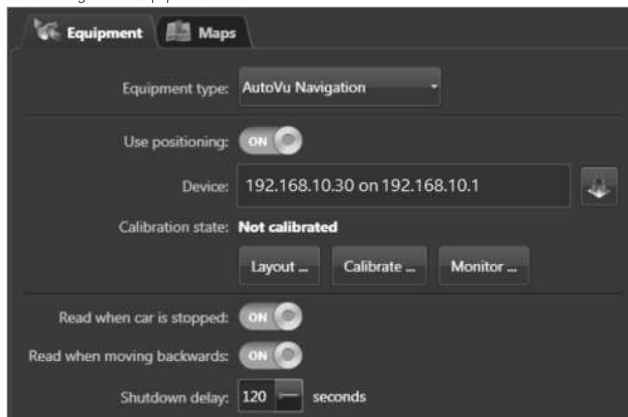
3. From the Equipment type list, select AutoVu™ Navigation.
4. Turn Use positioning to ON, then configure the following:

   Device
   The navigation hardware auto discovery starts automatically when a Sharp camera is accessible. Click the discovery button to restart the auto discovery if necessary. When a navigation device is discovered, the Layout..., Calibrate... and Monitor... buttons and the Calibration state field appear.

   Layout
   This button allows you to enter the GNSS antenna and port positions. This operation is necessary to calibrate the navigation hardware. For details, see Configuring the AutoVu navigation equipment layout.

   Calibrate
   This button allows you to perform step-by-step odometry and GNSS calibration. For details, see Calibrating Patroller Navigation.

   Monitor
   Click this button to get information about navigation position, malfunctions, and vehicle status.

5. If you want to read plates when the patrol vehicle is stopped, turn Read when car is stopped to ON.
6. If you want to read plates when the patrol vehicle moves in reverse, turn Read when moving backwards to ON.
   NOTE: When doing parking enforcement, patrol vehicles may stop and reverse frequently.
7. Specify the Shutdown delay. This delay is the number of seconds to wait after the vehicle's ignition is turned off before shutting down the in-vehicle computer. To disable this feature, enter "0".
8. Click Apply.

Results

The settings for AutoVu navigation are configured.
Parent topic: Process Overview: AutoVu navigation configuration

If your mobile Sharp system includes the navigation option, you need to specify the position of the GNSS antenna and the navigation expansion module relative to the center of the rear axle of the patrol vehicle to get accurate navigation values.

Before you begin

- Enable AutoVu™ navigation.
- You need to measure the x, y, and z distances (see vehicle image below) between the vehicle's rear axle and both the GNSS antenna and the GNSS connector. You will need a measuring tape and other tools to help you. Measure from the antenna to the rear axle in all three directions, and from the GNSS connector to the rear axle in all three directions.
  NOTE: Measurement precision must be within 10 cm (4 in.).
    - **SharpZ3**: The GNSS connector is located on the navigation expansion module.

    - **SharpX:** The GNSS connector is located on the ALPR Processing Unit face plate.
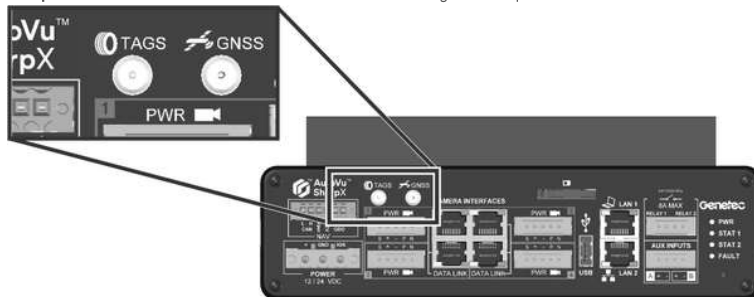
What you should know
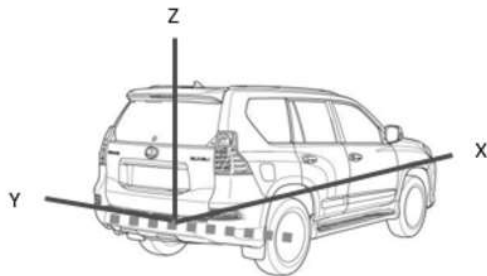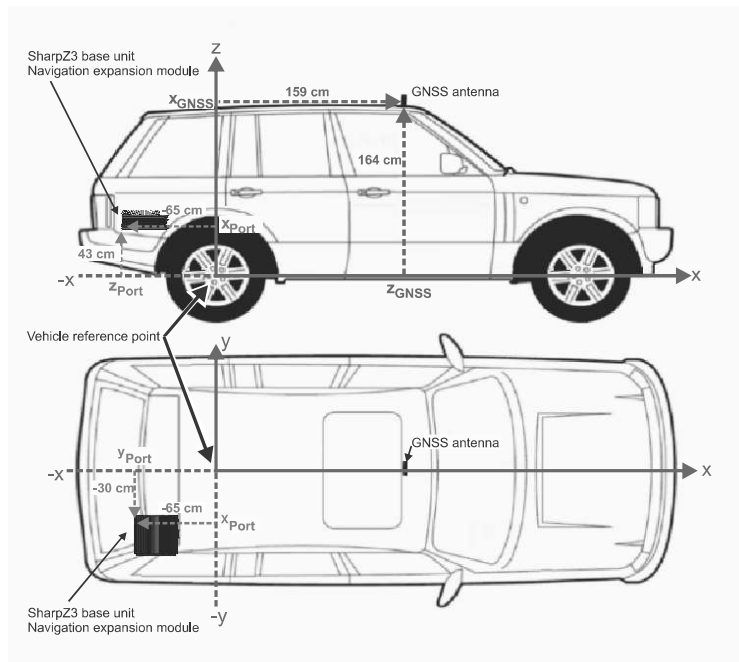
- The x axis represents the position of the equipment relative to the length of the car (rear and front). The zero position being the rear axle, a negative value is behind the rear axle and a positive value is in front of the rear axle.
- The y axis represents the position of the equipment relative to the width of the car (left or the right) when standing behind the vehicle and looking towards it. The zero position being the center of the car, a positive value is towards the left and a negative value is towards the right.
- The z axis represents the height of the equipment relative to the rear axle. A positive value is positioned above the axle.
- The diagrams provided on the configuration page are for illustrative purpose only as vehicle models may vary. The symbols will be displayed within the diagram boundaries even if large numbers are entered in the measurements input fields.
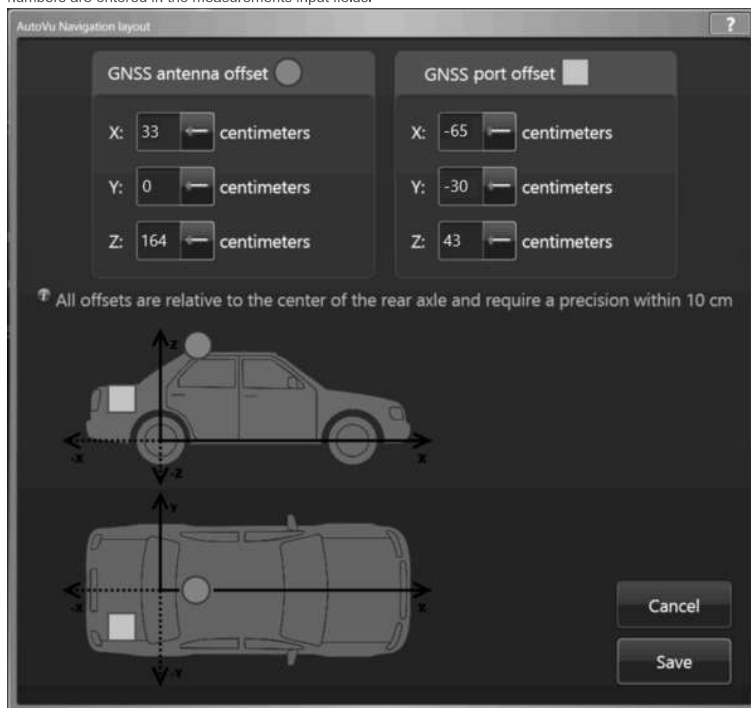
Procedure

1. From the Navigation page in the Genetec Patroller™ Config Tool, select the Equipment tab.
2. Click Layout.
3. Enter the GNSS antenna x, y, and z measurements in centimeters.
   The purple dot shows the antenna's position on the car diagram, both on the top and side views. The axis being modified is highlighted on the diagram.
   NOTE: You can configure Genetec Patroller™ to use Imperial or Metric units in the User interface - General page.
4. Enter the GNSS port (or connector) x, y, and z measurements in centimeters.
   The green square shows the base unit's position on the car's diagram. The axis being modified is highlighted in blue.
5. Click Save.
   The position values for the GNSS port are saved. When starting calibration, Patroller will first try to load values that have been saved on the navigation module. If the module has been programmed with values, they will be used by default, which is good if the on-board computer has to be changed. The measurements do not need to be taken again. If a base unit has never been initialized, all zeros are shown. If the values can't be read or written correctly, a warning message appears.

Results

The AutoVu navigation equipment layout is now configured.
Parent topic: Process Overview: AutoVu navigation configuration

4.8.3 | Calibrating the AutoVu Navigation system

If your mobile Sharp system includes the navigation option, you need to calibrate the hardware so that the readings are accurate.

Before you begin

- Enable AutoVu™ Navigation.
- Configure the navigation system layout.

What you should know

- The calibration time (approximately 10-15 minutes) can vary based on geographical location, environment, driving style, vehicle repositioning time, proper execution of requested maneuvers, and driver experience with the procedure.
- The procedure requires that you drive straight, backwards, and that you perform several turns. You will also be asked to drive over hills. You need to locate a suitable road, parking lot or large area where you can complete the procedure in a safe way.
- No feedback is given when a maneuver is performed.
- You can perform the maneuvers in any order.
- There is no time limit to complete the maneuvers.
- If required, you can reposition the vehicle before each maneuver.

WARNING: For safety reasons, you must carry out calibration of AutoVu navigation away from any area with motor vehicle traffic, with the assistance of another individual to identify and avoid any hazards in the selected area. Genetec Inc. WILL IN NO EVENT BE LIABLE FOR ANY DIRECT OR INDIRECT, CONSEQUENTIAL, INCIDENTAL DAMAGES OF ANY KIND, INCLUDING ANY TRAFFIC ACCIDENT, ARISING OUT OF YOUR FAILURE TO FOLLOW THE FOREGOING INSTRUCTIONS

Procedure

1. From the Equipment page in the Genetec Patroller™ Config Tool, select the Navigation tab.
2. From the Calibration window, select if the odometry signal comes from the vehicle's VSS or from the odometry sensor. Read the warning that appears and click I accept these terms to be able to start the calibration process.
3. Click Start calibration.
   This procedure is designed so that there is minimal need to touch the screen. The instructions are read out loud and a sound signal indicates when to switch to the next step. It is recommended that you perform this operation with a co-driver and ensure that all necessary safety precautions are taken. The following conditions must be met for the calibration to start:
   - The antenna can receive the GNSS signal. If the vehicle is inside a garage, move it to a clear sky area before starting the calibration process.
   - The vehicle engine is running and the transmission is in Park.
   - The Sharp system is powered up.
4. Follow the instructions on the screen for a step-by-step description of the calibration maneuvers. Perform the maneuvers until the window changes to the next step or until the Calibration completed screen appears. You can abort the procedure and start over at any time.

   <u>The following instructions are displayed for a pulse calibration:</u>

   Put the vehicle in park
   Stop the vehicle and put the transmission in Park until you hear the sound signal and the next screen appears.

   Put the transmission in reverse
   No need to drive backward. Put the transmission gear in reverse until you hear the sound signal and the next screen appears.

   Put the vehicle in park
   Stop the vehicle and put the transmission in Park until you hear the sound signal and the next screen appears.

   Drive forward at low speed
   Drive slowly forward until you hear the sound signal and the next screen appear. Make sure that you do not go faster than the indicated speed.

Drive forward at 30 km/h

Drive forward at a speed of 30 km/h (20 mph) until you hear the sound signal and the next screen appears. This step can take time. It is important to continue until the step is completed.

Miscellaneous maneuvers

Execute the six maneuvers on the screen in any order. There will be no prompt to go to the next one and no sound signal. You can tap an image to zoom in and see it better. Tap again to restore the view. If you have completed the six maneuvers and the sensors are still not calibrated, do all the six maneuvers again, in any order. To save time, you can combine maneuvers. For example, you can drive straight on a small slope, combining two maneuvers into one. Drive until the Calibration completed screen appears.

The calibration procedure might take some time because a large number of samples are required for the wheel sensors to function correctly. Keep driving the vehicle until the calibration completed screen appears.

5. Click Show sensor details anytime during calibration to view the status of individual sensors:

Gyro Z

Measures the angular rotational velocity, or rotation speed that determines the orientation of the vehicle.

Accel X

Measures the acceleration in the direction of travel (forward, backward)

Accel Y

Measures the acceleration perpendicular to the direction of travel (sideways).

Accel Z

Measures the acceleration up and down.

Wheel ticks

Measures the wheel rotation speed.

6. Click Close in the Calibration completed screen to conclude calibration.
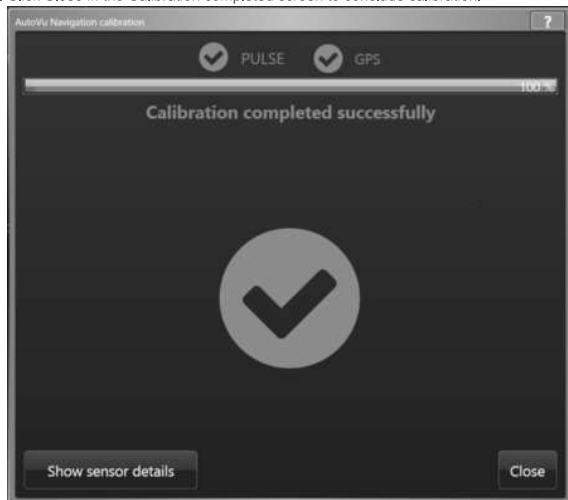
NOTE: If a problem occurs with the navigation system, you can enable verbose logs to help Technical Support understand the situation. Go to the Advanced page in the Traces section and put the Navigation diagnostic logs to verbose. Do not forget to turn it back off as it can take a lot of hard disk space. You can click Abort at any time to cancel the calibration procedure.

Results

The AutoVu navigation is calibrated.

After you finish

If you change the position of the GNSS antenna or the AutoVu base unit, you must modify the layout accordingly and recalibrate the system.

Parent topic: Process Overview: AutoVu navigation configuration

4.9 | Enabling Patroller Map settings

If you're using Genetec Patroller™ with maps, you must select the Patroller mapping option to use, and configure the related settings.

Before you begin

If you're using maps, you must install the BeNomad files, Patroller's mapping solution.

Procedure

1. Open Genetec Patroller™ Config Tool.
2. Go to Navigation > Maps.
3. From Mapping type, select BeNomad.
   The default map type for AutoVu™.
4. Configure the following settings:

   Show vehicle route
   Displays a trail behind the Genetec Patroller™ icon that allows you to see the route Patroller has taken. Turn this setting off to show only the Patroller's current position.

   Show parking lots overlay
   Turn on to display configured parking lots on the map in the Patroller main viewer.

   Snap to road threshold
   Specify the maximum distance error (in meters). If the distance between the vehicle and the closest map item is greater than this value, no snapping will occur.

5. Click Apply.

Results

Patroller mapping settings are configured.

4.10 | Installing the GlobalSat GPS driver

If you are installing a GlobalSat BU-353 USB GPS receiver as part of a SharpZ3 system, you must install the required drivers on the in-vehicle computer running the Genetec Patroller™ application.

What you should know

- The driver file contains the drivers for GlobalSat BU-353N and BU-353S4 models. The correct driver is selected automatically.
- If the base unit includes the navigation expansion module and uses the Tallysman TW2412 GPS/GLONASS antenna, you do not need to install any drivers.

Procedure

1. Turn on the in-vehicle computer and sign in to Windows using an Administrator account.
2. In the Patroller installation package, navigate to Patroller_v6.x.x.x > Drivers > BU-353 GPS Receiver and unzip the file PL23XX_Prolific_DriverInstaller_v402.zip.
3. Double-click the driver installer: PL23XX-M_LogoDriver_Setup_402_20220309.exe.
4. Follow the on-screen instruction to complete the installation process.

4.11 | Configuring New Wanted Patroller options

After you have created the *New wanted* attributes and categories, and they have been pushed to Genetec Patroller™, you need to configure them in Genetec Patroller™ Config Tool.

Procedure

1. Open Genetec Patroller™ Config Tool.
2. Go to Operation > Hotlists, turn on Enable new wanted, and then configure the following settings as needed:

   Enable new wanted management
   Turn on to allow Patroller users to edit and delete *New wanted* entries from the database.

   Enable comments for new wanted
   Turn on to activate a text box where you can enter a comment when entering a *New wanted* hotlist item.

   New wanted expiry options (in days)
   Select one or more expiration options for New Wanted entries.

3. Click Apply.

Results

Patroller users can now add and manage (if enabled) *New wanted* entries.

4.12 | Turning on Simplematcher in Patroller

Hotlists with millions of entries (for example, 2.5 million or more) require much more CPU processing power and memory than smaller hotlists. Turning on the Simplematcher tells Genetec Patroller™ to ignore the NumberOfDifferencesAllowed portion of the MatchersSettings.xml file, which considerably reduces the processing load on the Patroller in-vehicle computer.

Before you begin

To ensure that the system does not generate too many false positive hits, turn off OCR equivalence in the ALPR matcher.

What you should know

When Use Simple Matcher is not enabled in the Genetec Patroller™ Config Tool, the Patroller will automatically use the simple matcher by default if the number of entries in the plate list exceeds two million entries. In this case, common and contiguous characters "fuzzy matching" is not available.

Procedure

1. Open Genetec Patroller™ Config Tool.
2. Go to Operation > Hotlists and then turn on Use Simplematcher.
3. Click Apply.

4.13 | Configuring hotlist settings

The hotlist settings in Genetec Patroller™ Config Tool determine how the hotlists are used and what is the Patroller behavior with different hotlist options.

Procedure

1. Open Genetec Patroller™ Config Tool.
2. Go to Operation > Hotlists.
3. Configure the following options:

Allow consecutive hits
Turn on to allow sequential hits for the same plate. For example, if you capture a plate that raises a hit, and then capture the same plate again, it will raise another hit.
NOTE: If you turn this setting off, Genetec Patroller™ would need to capture a new plate before allowing a hit for the same plate.

Enable new wanted
Turn on to allow Patroller users to add New wanted hotlist entries.

Enable new wanted management
Turn on to allow Patroller users to edit and delete New wanted entries from the database.

Enable comments for new wanted
Turn on to activate a text box in Patroller where you can enter a comment when entering a New wanted hotlist item.

New wanted expiry options (days)
Create the expiry options available to the Patroller user when adding a New wanted entry.

For example, let's say you create the options 1, 5, and 10. When you add a New wanted entry, you'll be able to choose for that entry to expire in 1, 5, or 10 days. If you don't provide an expiration option, New wanted entries will remain in the Patroller database indefinitely.

Add expiration option ( )
Enter an expiration option (in days). Maximum value is 100.

Delete expiration option ( )
Delete an existing expiration option.

Enable Selectable hotlist
Turn on to allow Patroller users to select which hotlists among those available on the Patroller are used to generate Hits.

Enable past read matching
Turn on to compare reads from the past with a new hotlist, or new wanted plates that have been manually added.

Past read matching look back
Enter how long in hours you would like Patroller to look back in the database for reads that match a new hotlist, or new wanted entry.

Bypass hit enforcement
Turn on to bypass the additional step of enforcing a hit after accepting it. When turned on, Patroller assumes you enforced the hit, and will not display the Enforced/Not enforced prompt.

Auto-enforce hotlist hits
Turn on for Patroller to run in unattended mode. Hits are automatically accepted and enforced without requiring user interaction.
NOTE: If you have configured "Hit accept" or "Hit reject reasons", they are ignored when this setting is on.

Display hits by priority
Turn on to display hits in Patroller by the priority you specified in Security CenterConfig Tool.

For example, if you have set "Hotlist A" to a higher priority than "Hotlist B", hits generated from Hotlist A will be displayed first (on the right of the Patroller scrollbar).

Use simple matcher
Turn on Simplematcher when using very large hotlists with millions of entries. You'll also need to turn off OCR equivalence in the ALPR matcher. For more information about configuring ALPR matcher settings, see Configuring ALPR matcher settings.

4. Click Apply.

4.13.1 | Triggering base unit outputs on hotlist hits

You can configure a AutoVu™ base unit output to activate when the system registers a hotlist hit. For example, you can use this feature to activate a video recording system when the license plate of a known offender is detected.

What you should know

The base unit outputs are normally closed relays and are not configurable.

Procedure

1. Open Genetec Patroller™ Config Tool.
2. Go to Operation > General.
3. Turn on Trigger output relay on hit.
4. From the drop-down list, select the Output relay when a hotlist hit is registered.
5. Configure the Duration between 500 and 60000 milliseconds.
6. Click Apply.
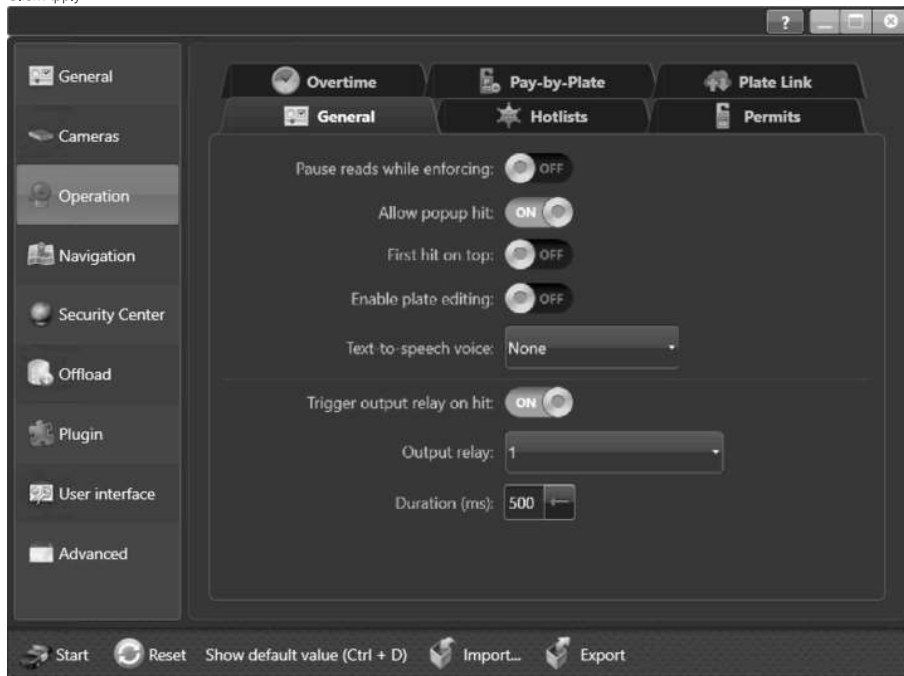
After you finish

Configure the system you are activating to react to the trigger from the base unit output. For more information on the base unit inputs and outputs, refer to the *AutoVu™ SharpZ3 Deployment Guide*.
Parent topic: Configuring hotlist settings

4.14 | Configuring overtime settings

To use overtime rules in City and University parking enforcement, you need to enable overtime and configure the overtime settings in Genetec Patroller™ Config Tool.

What you should know

For information on configuring tire images, see Configuring wheel imaging settings in Patroller

Procedure

1. Open Genetec Patroller™ Config Tool.
2. Go to Operation > Overtime.
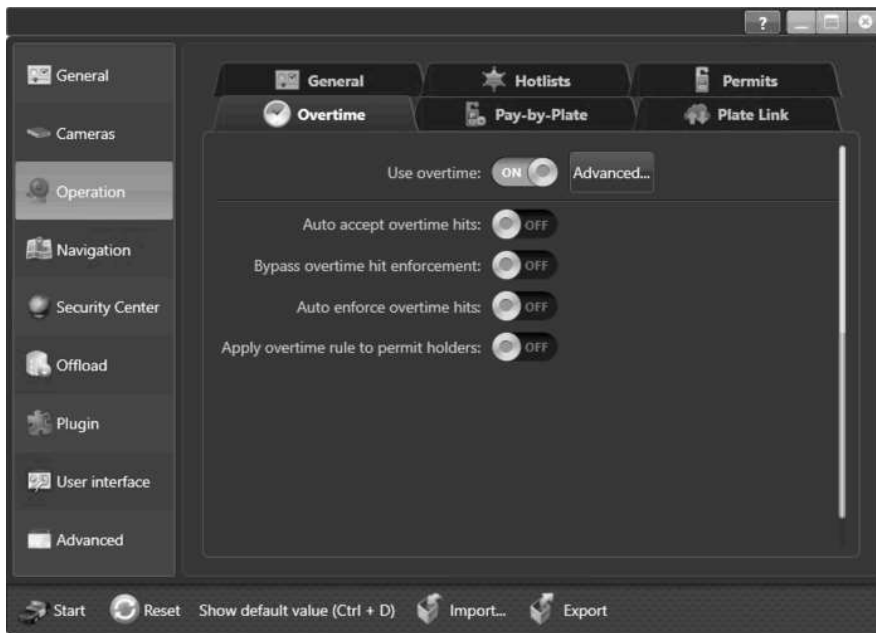
3. Turn on Use overtime, then configure the following:

Auto accept overtime hits

Turn this on if you want Genetec Patroller™ to accept overtime hits with no user action. After the patrol vehicle has passed through the parking area, the operator can then review and enforce the hits.

NOTE: With this feature enabled, the operator cannot manually edit the plate read before it is accepted.

User workflow: Hit raised > Hit is verified against updated permit list > **User enforces hit** > Hit enforced

Bypass overtime hit enforcement

Turn this off if you want Patroller users to indicate whether or not they enforced the hit after accepting it. Turn it on to bypass enforcement. When turned on, Patroller automatically enforces hits after they are accepted.

User workflow: Hit raised > **User accepts hit** > Hit enforced

Auto enforce overtime hits

Turn this on for Patroller to run in unattended mode. Hits are automatically accepted and enforced without requiring user interaction. Hit accept and hit reject surveys are ignored when this option is enabled.

NOTE: The two operator functions (accepting and enforcing hits) are linked when you enable this setting.

User workflow: Hit raised > Hit enforced

Apply overtime rule to permit holders

Turn this on for locations where parking access can be bought for a limited period. In this configuration, if a plate is read once and is not on the selected permit list, a hit is generated. However, if it is on the list, no hit is generated on the first read. The second read determines if the time limit is exceeded and if a hit is generated. If this option is disabled, permit holders do not generate violations.

4. Click Advanced.
   The Advanced overtime settings window is displayed.
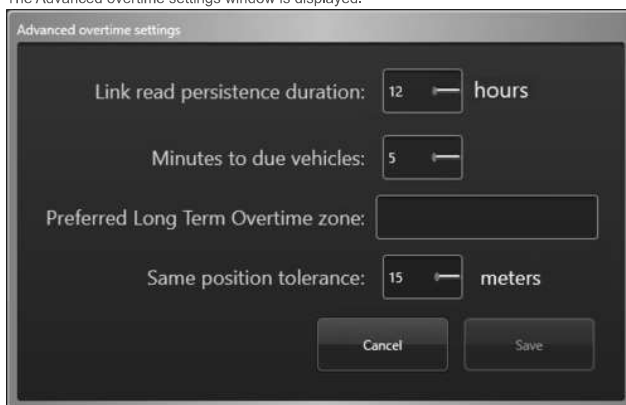
5. From the Advanced overtime settings window, configure the following:

Link read persistence duration

Enter the number of hours a plate read that is stored in the Patroller database is considered to be "read #1" for a particular overtime rule. The default 12 hours generally does not need to be modified. If, for example, a patrol vehicle scans the street every 12 hours, you could extend the Link read persistence duration to ensure that the "read 1" is still present for the next patrol.

NOTE:
   ○ When a long-term overtime rule is configured, the Link read persistence duration field is ignored. The availability of license plate reads is controlled by the Number of days defined in the overtime rule settings in Security Center Config Tool. For more information, see Configuring long-term overtime settings.
   ○ When using overtime rules with time range and a link persistence over 24 hours, overtime hit will not raise on different days.

Minutes to due vehicles

Enter the amount of time before the vehicles are due for enforcement. This value determines the Show Due functionality in Patroller. The default value is 5 minutes.

Preferred Long Term Overtime zone

If you have more than one Long Term Overtime zone configured in Security Center, you must type the name of the zone you want Patroller to display, because you can only enforce one zone at a time. This value is not case sensitive.

Same position tolerance

This is a buffer used for "Same position" overtime rules. It is the distance that Patroller considers to be a single position or parking space.

6. Click Save.
7. Click Apply.

   Overtime rules are now enabled and configured in Patroller.

After you finish

If you are using tire images, configure the wheel imaging settings.

4.15 | Configuring long-term overtime settings

If you need to monitor for overtime violations between 1 and 5 days, you can configure long-term overtime settings in Genetec Patroller™ and Security Center.

What you should know

- Long-term overtime applies to AutoVu™ Patroller City Parking Enforcement with or without wheel imaging. The use of wheel-imaging cameras is recommended so that you can distinguish abandoned vehicles from cases where the vehicle owners park in the same spot every day.
- A patrol vehicle can only be linked to one long-term overtime rule and cannot switch between long-term overtime rules. For example, if a city has three long-term overtime rules, it needs at least three patrol vehicles.
- You can assign multiple patrol vehicles to a single long-term overtime rule. In this case, you can use Plate link to ensure that the reads are available to all patrol vehicles. For more information, see About Plate link.

Procedure

1. In Security Center Config Tool, create an overtime rule.
2. In Security Center Config Tool, configure the overtime rule for your parking scenario.
   - In the Properties tab of the overtime rule, select Long term overtime.
     NOTE: The Parking enforcement option is automatically set to Same position, meaning the vehicle is in violation when it stays in the same parking space longer than the configured Number of days.
   - Set the Number of days that vehicles can park in the area to between 1 and 5 days.
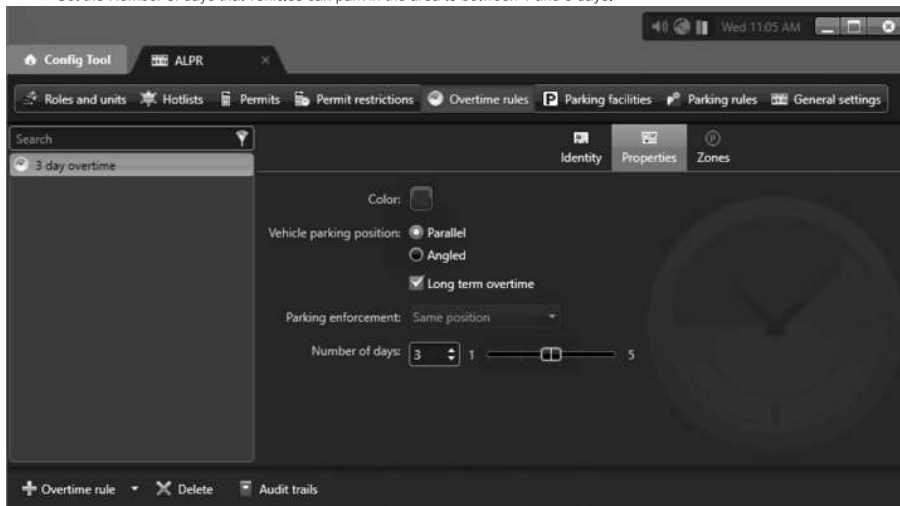
NOTE:

- By default, reads are stored for 144 hours (6 days). This accounts for the maximum Number of days plus an additional day to patrol the zone for violations.
- If you have previously changed the Store reads for value, you might need to modify the value to account for your long-term overtime zone. For more information, see Configuring Patroller database options.

3. Configure overtime settings for the patrol vehicle. For more information, see Configuring overtime settings.
- Go to Operation > Overtime and click Advanced.

- In the Advanced overtime settings window. Enter the name of the long-term overtime rule in the Preferred Long Term Overtime zone field.

NOTE:
- When a long-term overtime rule is configured, Link read persistence duration is ignored. The availability of license plate reads is controlled by the Number of days defined in the overtime rule settings in Security Center Config Tool. The setting is in 1-day increments, therefore configuring a long-term overtime zone for a time period such as 36 hours is not possible.
- If you only have one long-term overtime rule defined in Security Center Config Tool, you can leave the Preferred Long Term Overtime zone field blank.

4.16 | Configuring Pay-by-Plate settings

To use Pay-by-Plate in City and University parking enforcement, you need to enable it and configure the settings in Genetec Patroller™ Config Tool.

What you should know

Prior to Patroller 6.1, Pay-by-Plate was installed as a plugin for Genetec Patroller™. If the Pay-by-Plate plugin was previously installed and enabled prior to upgrading to Patroller 6.1 or later, Pay-by-Plate is automatically enabled on the Pay-by-Plate tab of the Operations page. Your configured settings are preserved, and the *Plate copy* and *Hit export* plugins are are activated by default on the Plugin page.

Procedure

1. Open Genetec Patroller™ Config Tool.
2. Go to Operation > Pay-by-Plate.
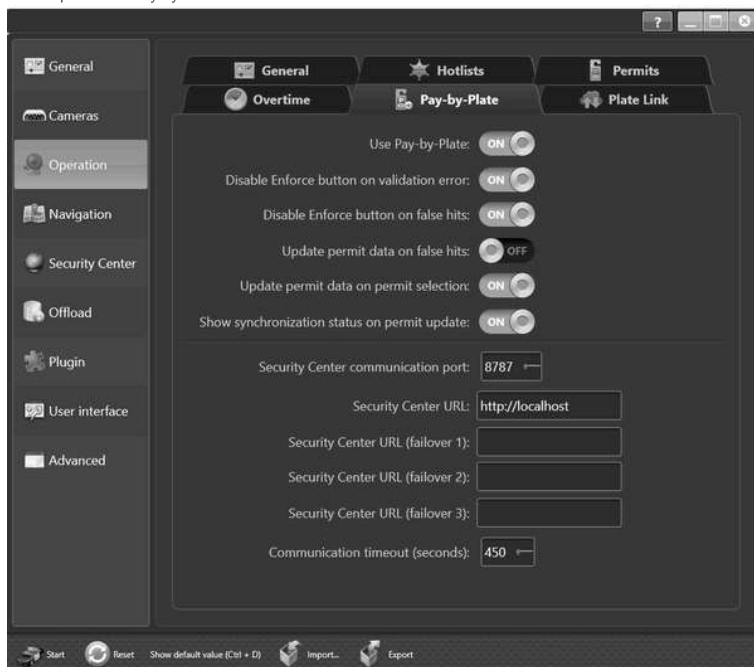
3. Configure the following options:

Use Pay-by-Plate
Turn ON to enable Pay-by-Plate plugin.

Disable Enforce button on validation error

ON
Disables Patroller's Enforce button if there is a communication error that prevents Live Infraction Validation from validating the hit.

OFF
Does not disable enforcement if there is a validation error.

The option Disable Enforce button on false hits supersedes this option. If you allow enforcement of false hits, this option has no effect.

Disable Enforce button on false hits

ON
Disables Patroller's *Enforce* button if Live Infraction Validation confirms the captured plate is valid and is in the provider's system (false hit).

OFF
You will receive a message informing you that the hit is invalid, but you will be allowed to enforce it if you choose.

Update permit data on false hits

ON
Updates your selected permit list if the Live Infraction Validation confirms the captured plate is valid and is in the provider's system (false hit).

OFF
You will need to update your permits manually by re-selecting your permits in Genetec Patroller™.

Update permit data on permit selections

ON
When you select a permit to enforce in Patroller, the permit is automatically updated with the latest information from the parking provider's system.

OFF
Permits are only updated when Security Center gets new information from the parking provider, and then updates Patroller using Periodic Transfer (which should be set to one minute).
NOTE: If you turn this setting off, you cannot have permit updates set to "0" in Security Center Config Tool. Doing so would disable automatic updating of permits.

Show synchronization status on permit selection

ON
Displays a popup window after you select a permit that shows the synchronization status between Patroller and Security Center.

OFF
The popup window is not displayed.
IMPORTANT: If you turn this setting off, synchronization will still occur if the Update permit data on permit selections option is enabled. However, you will not know when synchronization is complete, or if there were any errors. It is recommended that you leave this setting on at all times.

Security Center communication port

Enter the port number to use for connecting to the Security Center Pay-by-Plate plugin role (8787 is the default). This must match the port entered in Security Center Config Tool for the setting: Patroller communication port.

Security Center URL

Type the IP address (in the form of a URL) to connect to the Security Center Pay-by-Plate Sync plugin role. For example, if you want to connect to IP address 123.456.78.9, you must type the full address as http://123.456.78.9.
IMPORTANT: Do not include a trailing slash after the IP address.

Security Center URL (failover 1)

If you have failover configured for the Pay-by-Plate sync plugin role, enter the IP address (in the form of a URL) of the first failover server.

Security Center URL (failover 2)

If you have failover configured for the Pay-by-Plate sync plugin role, enter the IP address (in the form of a URL) of the second failover server.

Security Center URL (failover 3)

If you have failover configured for the Pay-by-Plate Sync plugin role, enter the IP address (in the form of a URL) of the third failover server.

Communication timeout (seconds)

Enter how long (in seconds) before a communication request between Patroller and Security Center times out.

4. Click Apply.

4.17 | Measuring the Tire cam-to-plate distance in Patroller

To determine when Genetec Patroller™ should start taking wheel images from the wheel-imaging camera, you must measure the distance between the wheel-imaging camera and the license plate. You need to be in the Patroller vehicle and parked next to a "target" vehicle to perform this procedure.

What you should know

This procedure is the same for parallel or 45-degree parking, but the distance is less for 45- degree parking because of the parked vehicle's angle.

Procedure

1. Park the Patroller vehicle next to the target vehicle. Keep the engine running.
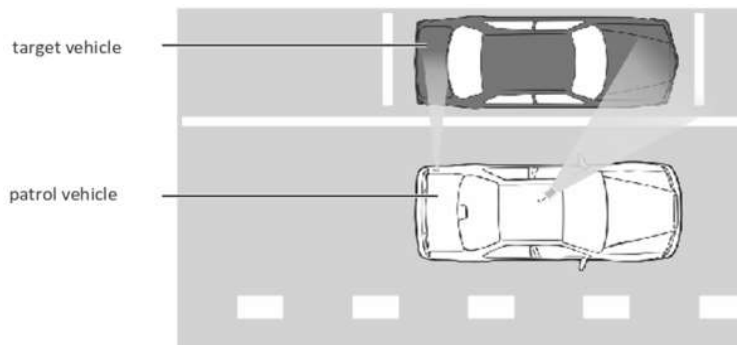
2. Start Patroller, then tap Video.
   The video window appears showing the available Sharps and tire cameras.
3. Select the camera (if you have more than one) aimed at the target vehicle, then tap ALPR to see the ALPR camera's feed
   The ALPR camera's video feed appears.
4. Put the Patroller vehicle in reverse, then slowly back up until you see the target vehicle's entire plate in the ALPR video feed. Stop the vehicle.
5. Using your tape measure, measure the **parallel** distance (in meters) from the wheel imaging camera's field of view to the target vehicle's license plate.

Slowly back up the Patroller vehicle. _____

When the entire plate is visible, measure the parallel distance to the tire camera.

For 45-degree angled parking, the distance is less because of the parked vehicle's angle.

6. Write down the distance you measured.

After you finish

You will need to enter the distance in Genetec Patroller™ Config Tool. The distance is used by Patroller to know when to start grabbing tire images after a plate read.

Browse

- Configuring wheel imaging settings in Patroller

4.18 | Configuring wheel imaging settings in Patroller

You can enter the required settings for Genetec Patroller™ to know when to grab wheel images from the tire cameras.

Before you begin

Measure the Tire cam-to-plate distance because this measurement is requirement for this procedure.

What you should know

The overtime settings on this screen still apply when you turn on Use tire images. For more information on these settings, see Configuring overtime settings.
NOTE: If you turn on Auto accept overtime hits, wheel images are available when reviewing accepted hits.

Procedure

1. Open Genetec Patroller™ Config Tool .
2. Go to Operation > Overtime, turn on Use overtime, then turn on Use tire images.
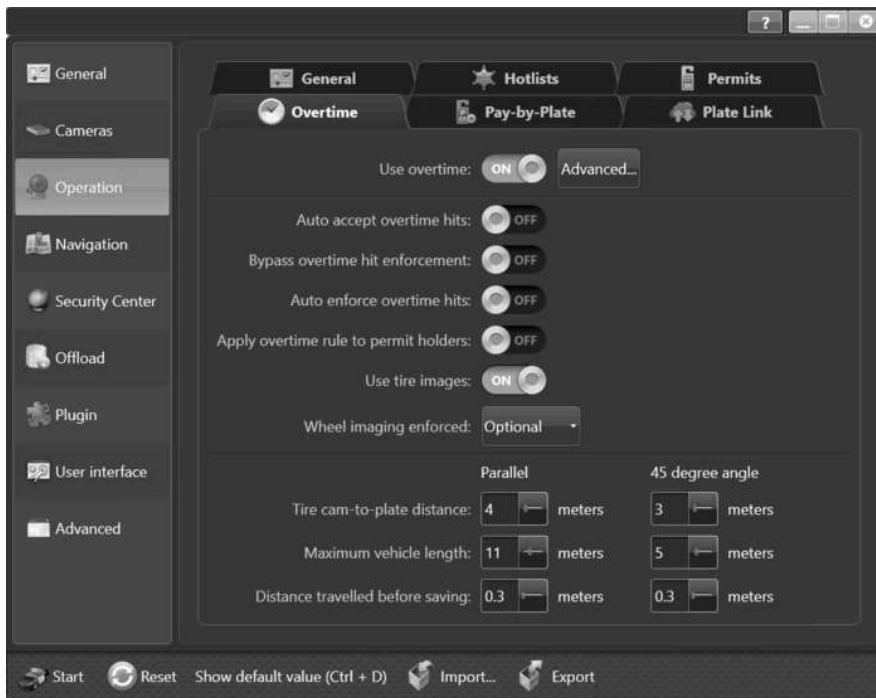
3. Configure the following:

   NOTE: You should only need to modify the *Tire cam-to-plate distance* parameter. The other settings should be adequate for any parking enforcement scenario.

   Wheel imaging enforced
   Select Mandatory or Optional from the drop-down list. If you select optional, Patroller users can enforce a hit without confirming wheel images.
   NOTE: Set this to Optional if you have enabled the Auto accept overtime hits setting.

   Tire cam-to-plate distance
   This distance tells Patroller how far to travel (after the initial plate read) before it starts grabbing wheel images.

   Maximum vehicle length
   Patroller will stop grabbing wheel images after it has travelled the Tire cam-to-plate distance + Maximum vehicle length.

   TIP: The distance you enter should be based on the general size of the vehicles in your patrol area. For example, vehicles in Europe tend to be smaller than in the United States.

   Distance travelled before saving
   When grabbing wheel images, this distance tells Patroller how often to grab an image. For example, the default 0.3 meters means that an image is grabbed every 30 centimeters.

4. Click Apply.
   Wheel imaging calibration is now complete.

Example

Here is an example of how all these settings work together:

1. The Sharp reads a parked vehicle's plate.
2. After the Patroller vehicle travels 4 meters (if **Tire cam-to-plate distance** = 4), Patroller starts grabbing wheel images from the tire camera.
3. Patroller grabs an image every 0.3 meters (if Distance travelled before saving = 0.3).
4. Patroller keeps grabbing images until it travels 11 meters (if Maximum vehicle length = 11) past the initial read.

After you finish

Perform a road test to ensure that the wheel imaging configuration provides the expected results.
Browse

- Measuring the Tire cam-to-plate distance in Patroller
- Configuring overtime settings

4.19 | Configuring additional context cameras in Patroller

Patrol vehicles can include additional context cameras to provide a more detailed view of the environment when plate reads are captured. You can fine-tune the timing of the additional context images to ensure that the target vehicle is in frame when the cameras are triggered.

Before you begin

- Change the default login on the auxiliary cameras (User: *admin* Password: *1234*).
- Connect Genetec Patroller™ to Security Center.

What you should know

- Patroller stitches images from up to four additional cameras into a single context image.

- The addition of context cameras to a patrol vehicle might be required for systems where the decision to enforce parking violations is made by manually reviewing plate reads at a central office instead of the decision being made live by the patrol vehicle operator at the time of the plate read. For information on installing additional context cameras on a patrol vehicle, refer to the deployment guide for the SharpZ3 or SharpX system.
- Systems that require additional context images generally use 4mm AutoVu™ auxiliary PoE cameras, but certain cameras from Axis Communications are also compatible. For more information, contact your AutoVu representative.
- Using this feature increases the size of each plate read by approximately 800 KB.
- The additional context image is available in Security Desk as the *Tire/Overview image* associated with the plate read.
  NOTE: Context images taken while the patrol vehicle is traveling faster than 40 km/h (25 mph) might be slightly distorted. For example, vehicle tires might appear slightly oval in shape.
- You can include the additional context image in Security Desk hit reports and read reports by adding the *Wheel Image* report column.

Procedure

1. Open Genetec Patroller™ Config Tool .
2. Go to the Cameras page.
3. Turn on Use additional context images.
4. Turn on Use context camera for each context camera installed on the vehicle.
   NOTE: It does not matter which camera you identify as *Camera A*: the camera trigger sequence is defined later.
5. The Camera address is automatically assigned according the PoE expansion module port number.
   NOTE: These IP addresses are assigned if the PoE expansion module is installed in expansion slot 2.

PoE expansion module port	Default IP address
1	192.168.40.1
2	192.168.40.2
3	192.168.40.3
4	192.168.40.4

6. Configure the connection for each additional context camera.
   a. Enter the auxiliary camera User and Password.
   b. If you are using Axis cameras, in the Capture parameters field:
      - Modify the string to display the correct Resolution of the video stream.
      - If the camera is installed upside down, enter a Rotation of 180.
      NOTE: You can modify the string to include additional parameters from the Axis API.
   c. Repeat these steps for each context camera.
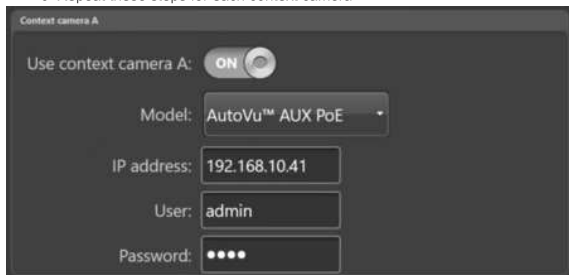
7. Drive the patrol vehicle and send reads to Security Center. The additional context image is available in Security Desk as the Tire/Overview image associated with the plate read.
8. Configure the Capture sequence for the context cameras.
   If the target vehicle does not appear in the center of the context images, you can fine-tune the timing of the sequence. Timing is controlled by triggering each auxiliary camera a certain distance (in meters) before or after the plate read location.
   NOTE:
   - Using this feature adds a short delay to each plate read while the system waits for incoming context images.
   - The capture sequence assumes that the patrol vehicle travels at a constant speed. If the vehicle speed changes during the capture sequence, the target vehicle might not appear in the center of the additional context images.
   - The system buffers five seconds of video feed from the additional context cameras. The maximum configurable trigger distance before or after a license plate read event depends on the expected speed of the patrol vehicle.
   The following is a typical capture sequence for a patrol vehicle with four Sharp camera units and four additional context cameras:
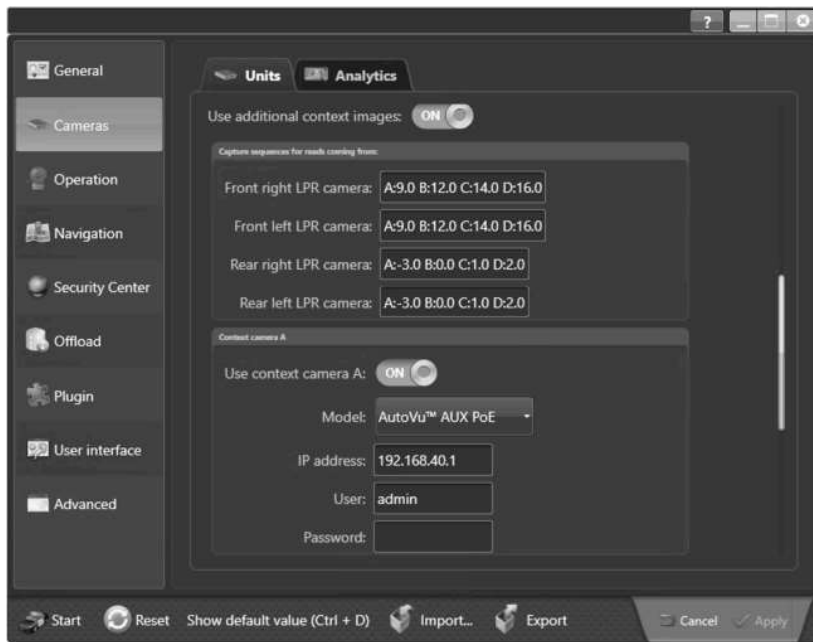
Using the rear-right camera as an example, based on the location of the vehicles in the context images from the collected plate reads, the following adjustment is required:

- ○ Context camera A is triggered 3 meters before the plate read (-3.0).
- ○ Context camera B is triggered at the same time as the plate read (0.0).
- ○ Context camera C is triggered 1 meters after the plate read (1.0).
- ○ Context camera D is triggered 2 meters after the plate read (2.0).

9. Click Apply.

4.20 | Configuring permit settings in Patroller

To use permits and shared permits for City and University parking enforcement, permits need to be enabled and configured in Genetec Patroller™ Config Tool.

Procedure

1. Open Genetec Patroller™ Config Tool.
2. Go to Operation > Permits.

3. Turn on Use permit, then configure the following:

Auto accept permit hits
Turn this on if you want Genetec Patroller™ to accept permit hits with no user action. After the patrol vehicle has passed through the parking area, the operator can then review and enforce the hits.

User workflow: Hit raised > Hit is verified against updated permit list > **User enforces hit** > Hit enforced

Bypass permit hit enforcement
Turn this off if you want Patroller users to indicate whether or not they enforced the hit after accepting it. Turn it on to bypass enforcement. When turned on, Patroller automatically enforces hits after they are accepted.

User workflow: Hit raised > **User accepts hit** > Hit enforced

Auto enforce permit hits
Turn this on for Patroller to run in unattended mode. Hits are automatically accepted and enforced without requiring user interaction. Hit accept and hit reject surveys are ignored when this option is enabled.
NOTE: The two operator functions (accepting and enforcing hits) are linked when you enable this setting.

User workflow: Hit raised > Hit enforced

4. Turn on Use shared permit (if you're using them), then configure the following:

Auto accept shared permit hits
Turn this on if you want Patroller to accept shared permit hits with no user action. After the patrol vehicle has passed through the parking area, the operator can then review and enforce the hits.

User workflow: Hit raised > Hit is verified against updated permit list > **User enforces hit** > Hit enforced

Bypass shared permit hit enforcement
Turn this off if you want Patroller users to indicate whether or not they enforced the hit after accepting it. Turn it on to bypass enforcement. When turned on, Patroller automatically enforces hits after they are accepted.

User workflow: Hit raised > **User accepts hit** > Hit enforced

Auto enforce shared permit hits
Turn this on for Patroller to run in unattended mode. Hits are automatically accepted and enforced without requiring user interaction. Hit accept and hit reject surveys are ignored when this option is enabled.
NOTE: The two operator functions (accepting and enforcing hits) are linked when you enable this setting.

User workflow: Hit raised > Hit enforced

5. Click Apply.
Permits and shared permits are now enabled and configured in Patroller.

4.21 | Adding license plate analytics in Patroller

If license plate analytics such as vehicle type and color are enabled on the Sharp camera, you can choose which analytics to include in the license plate reads and hits sent to Security Center.

Before you begin

For analytics to be available in Genetec Patroller™, you must first enable the analytics in the Sharp Portal For more information, see Configuring Sharp analytics.

Procedure

1. Open Genetec Patroller™ Config Tool.
2. From the Cameras menu, select Analytics.
3. Use the arrow buttons to move one or more selected Sharp analytics between the Ignored analytics fields or Displayed analytics fields lists.
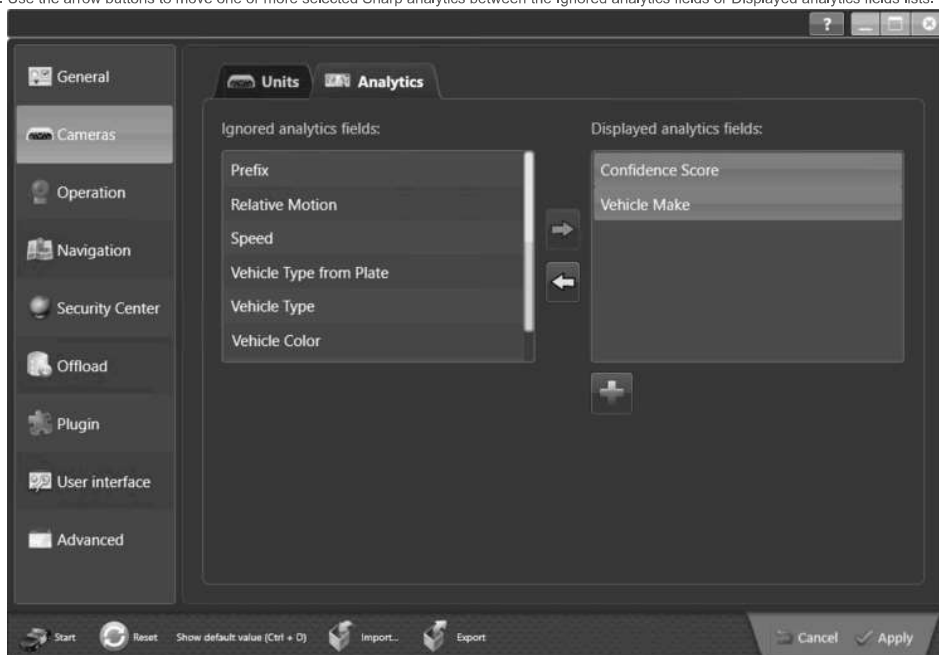
The following analytics are available:

Confidence score

The Sharp assigns a numerical value (from 0 to 100) to each license plate read. This value tells you how confident the Sharp is in the accuracy of the read. A value of 100 indicates the highest confidence. License plates that contain similar characters such as *8* and *B* are more difficult to read and generally produce reads with a lower confidence score.

Prefix

Certain license plates have sections that contain numbers or text that have a specific meaning. For example, a number that represents a city or a borough.

The Sharp with the corresponding ALPR contexts can read these sections and display the result in the "Prefix" value.

Relative motion

The Sharp can detect if the vehicle is getting closer or moving away.
NOTE: This analytic is generally not used with mobile Sharp units.

Speed

Sharp cameras are able to estimate a vehicle's approximate speed.

For a mobile AutoVu installation, the Patroller vehicle must be stopped for this feature to work.
NOTE: This analytic is generally not used with mobile Sharp units.

Vehicle make

Sharp cameras can recognize the make of certain vehicles, for example, Ford or Honda.
NOTE: The Sharp must see the vehicle's logo for this feature to work.

Vehicle type from plate

Certain license plates include character symbols that identify specific vehicle types, for example, taxi, transport, and so on. The Sharp can read these symbols from the ALPR image, and display the vehicle type along with the other read and hit information.

Vehicle type

Sharp cameras can detect the vehicle type based on the context image. The system can detect if the vehicle is a bus, passenger vehicle, motorcycle, pickup, truck, or a work van. If the vehicle type cannot be detected, the vehicle is flagged as "unknown".

Vehicle color

Sharp cameras can detect the vehicle color based on the context image. The system can detect black, white, blue, brown, green, gray, orange, red, and yellow. Colors are also assigned *light*, *neutral*, or *dark* according to the color analysis.
NOTE: At night, only *light*, *neutral*, or *dark* are detected.

4. Click Apply.

4.22 | About Plate link

Plate link is a Genetec Patroller™ feature that uses cellular communication to share license plate reads between patrol vehicles. Using Plate link increases the likelihood of capturing parking infractions in zones that are monitored by multiple patrol vehicles.

When a patrol vehicle that is registered and connected with Plate link enters a parking zone, it downloads all plate reads that were captured in that zone within a certain number of hours in the past. While the patrol vehicle remains in the zone, it uploads its new reads as they are generated, and every two minutes, Plate link checks for new reads from other patrol vehicles that are in the

zone.

Plate link can also detect if vehicles with the same shared permit are parked in zones that use different permit restrictions.

IMPORTANT:

- When a patrol vehicle that is registered to use Plate link enters an overtime zone or when a permit is selected, a *Downloading reads* message is displayed. To ensure that all violations are detected, it is recommended that the Patroller operator wait until the *# reads downloaded* message is displayed and the Plate link icon displays a check mark ( ) before continuing the patrol.
- Arrows on the Plate link icon indicate whether plate reads are being uploaded or downloaded ( ). If plate reads are buffered in the system, the icon indicates the number of reads that are awaiting transmission ( ).
- Patrol vehicles that are registered with Plate link upload all plate reads and wheel images (if enabled) using the mobile AutoVu™ base unit's cellular connection. Ensure that your cellular plan accounts for the increased bandwidth requirements associated with this feature.

Using Plate link with university parking

For university parking accounts that include multiple patrol vehicles monitoring multiple parking zones, you might notice that shared permit users try to park more than one share permit vehicle at the same time to avoid paying for multiple parking permits. To ensure that this type of shared permit violation is detected, you can enable Plate link so that the patrol vehicles can share plate reads.
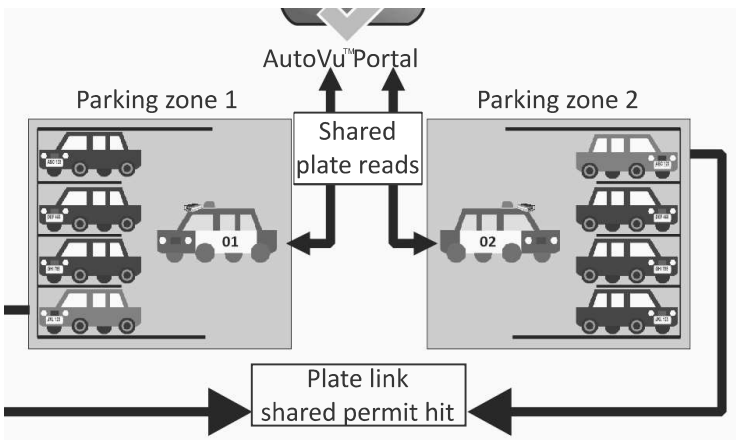
Using Plate link with city parking

For overtime city parking accounts that include multiple patrol vehicles monitoring the municipality, you will notice that overtime parking violations are not detected if the first and second plate reads were performed by different patrol vehicles. This situation can occur if, for example, a patrol vehicle takes the first plate read at the end of the driver's shift. The vehicle that takes the second plate read is not aware of the first read, and no overtime hit is generated. By enabling Plate link, you can share permit information between patrol vehicles, ensuring that these permit violations are properly ticketed.
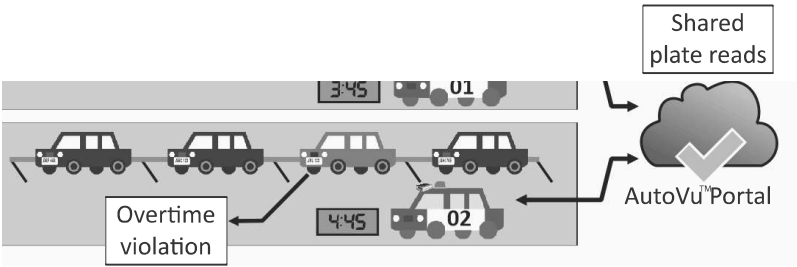
NOTE: If a long-term overtime rule is configured, you can use Plate link to connect multiple vehicles monitoring a single long-term overtime zone. For more information, see Configuring long-term overtime settings.

4.22.1 | Plate link data usage

When patrol vehicles use Plate link to share license plate reads, data is transmitted to and from each vehicle using cellular communication. Cellular usage depends on the patrol vehicle camera configuration and the number of plate reads captured.

NOTE: If a permit or overtime rule is not selected in Genetec Patroller™, no data is transmitted to the cloud.

Expected data usage

Camera configuration	Data usage	Data transmitted
SharpZ3 cameras	148 MB per 1000 reads	- Metadata - 1 x ALPR image - 1 x context image

Camera configuration	Data usage	Data transmitted
SharpZ3 cameras and wheel imaging cameras	2.2 GB per 1000 reads	• Metadata • 1 x ALPR image • 1 x context image • 25 x wheel images

Data usage example

Patrol vehicle 01:

1. Captures plate reads, including plate *ABC 123*.
2. Sends all plate reads through the cellular network to the cloud, including all ALPR, context, and wheel images.
   NOTE: The system must upload all images from Patrol vehicle 01 because it might not be online when Patrol vehicle 02 starts its patrol.
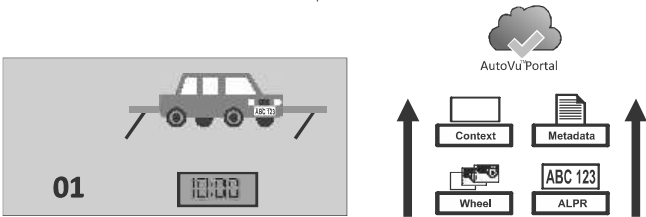
Patrol vehicle 02:

1. Downloads the metadata for recent plate reads from the cloud, including the first plate read of *ABC 123*.
2. Captures plate read *ABC 123* and generates a hit based on the previous metadata.
3. Downloads all images for the first plate read of *ABC 123* from the cloud.
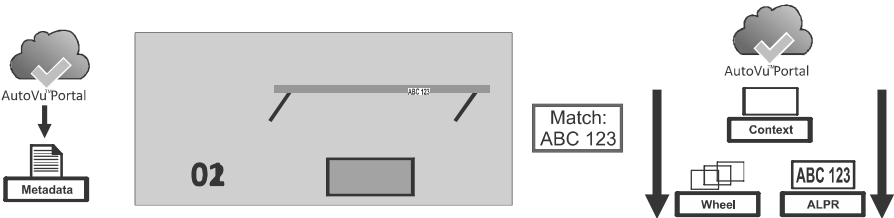
Parent topic: About Plate link

4.22.2 | Registering a patrol vehicle with Plate link

To share plate read information between patrol vehicles, an AutoVu™ Portal administrator must register the vehicles with the same Plate link account in the portal.

Before you begin

- To use this feature, ask your Genetec Inc. representative to add a new account for the city, university, or business that will be using Plate link.

  You will receive an email requesting the following information:

  - Account name
  - Geographical location of the account (country, state/region/province, and city)
  - Main contact name
  - Main contact phone number
  - One or more email addresses that will be used to create administrator accounts. Administrators can register patrol vehicles to use Plate link.
- Make sure Genetec Patroller™ can access the domains *.autovu.com* and *.blob.core.windows.net*. They might need to be white listed by the network administrator.

What you should know

- To be given administrator privileges in the AutoVu™ Portal, contact your Genetec Inc. representative.
- Plate link is cloud-based service that requires always-on internet connectivity.

Procedure

1. Open Genetec Patroller™ Config Tool.
2. Go to Operation > Plate link.
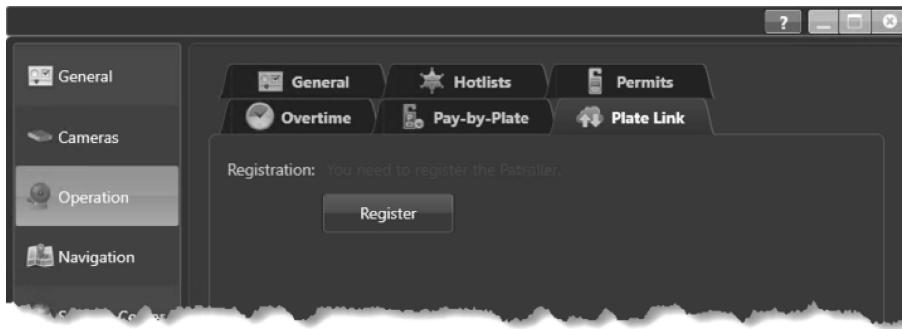
3. Click Register.
4. Enter the email address associated with your administrator account and click Log in.

5. If your email address has been authorized to register vehicles for more than one account, select the account from the list and click Submit.

When the Plate link registration is complete, the system displays a unique identifier for the patrol vehicle.
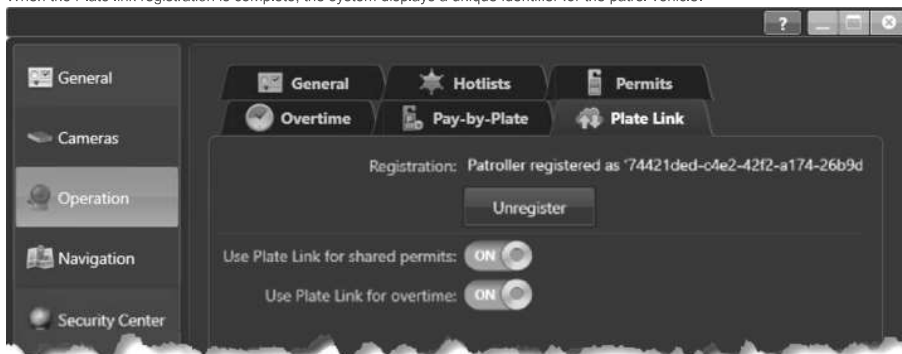
6. Select whether to use Plate link for shared permits or for overtime enforcement.
   Tip: Turning off an enforcement type that does not require shared reads can reduce cellular data usage.
7. If you have modified an enforcement type, click Apply.

Results

Plate reads from this patrol vehicle are now shared with other patrol vehicles that are registered with this account.
Parent topic: About Plate link

4.23 | Activating plugins in Patroller

To use AutoVu plugins such as *Hit export* and *Plate copy*, you need to activate them in Genetec Patroller™ Config Tool.

Procedure

1. Open Genetec Patroller™ Config Tool.

2. Click Plugin.
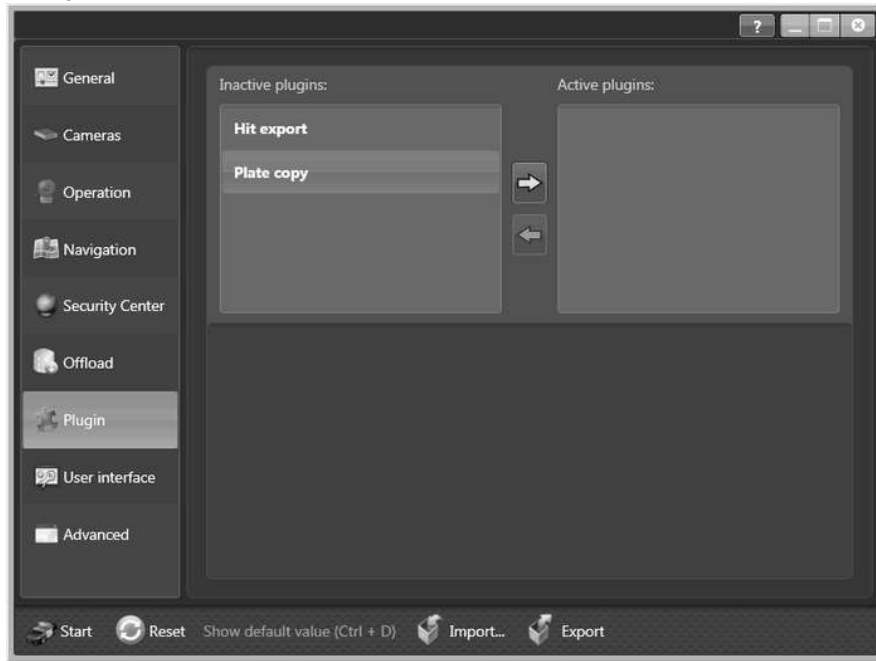
3. Under Inactive plugins, select the plugins you want to activate then click the Activate Selected plugins icon ➡️. You can activate multiple plugins at the same time.

   The selected plugins will move to the Active plugins list. You can deactivate a plugin at any time by selecting it from the Active plugins list and clicking the Deactivate selected plugins icon ⬅️.

   IMPORTANT: The *Hit export* and the *Plate copy* plugin can be activated at the same time. The other plugins were not designed to be used with certain plugins, and may cause unwanted behavior.
4. Click Apply.

Browse

- Plugin page in Genetec Patroller™ Config Tool

4.24 | About the Hit export XML template in Patroller

The Hit export plugin can be configured to create an XML file when you accept or enforce a hit in Genetec Patroller™. This section lets you view an example of the default XML template, learn what the fields in the template mean, and to view an example of what your final output should look like.

What you should know

- When data is not available from a hit, the field information is replaced by an empty string in the output file. For example, on a regular hit (no overtime) all the overtime fields are removed and no values are output.
- Date and time formats can be added between curly brackets ({}) to the following time fields:
  - TimeStamp
  - TimeStampUTC
  - OvertimeTimeStamp
  - OvertimeTimeStampUTC

  For example, if you want the TimeStamp field to output the date (Month, Day, Year) and a 24 hour time format, you would enter %TimeStamp%{MM/dd/yyyy HH:mm:ss}. For more information about supported date and time format strings, click here.

Hit export XML template example

Following is an example of the default *HitExportTemplate.XML* located at:

C:\Program Files (x86)\Genetec AutoVu 6.7\MobileClient\TemplateFiles.
IMPORTANT: The default template provides a sample of the available tags and is subject to change. Do not use it as is. Create instead your own template by renaming or creating a copy of the default file.
Code

```
<?xml version="1.0" encoding="UTF-8" ?>
<!--
    !!!!!!!!!!!!!!!!!!!!!!!!!!!! IMPORTANT !!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!
    This file is a sample of the available tags that you can use when creating a
    template. Do not create a dependency on this file for it is subject to change.
    Instead, you must create a copy of this sample and use it for your own purposes.
    !!!!!!!!!!!!!!!!!!!!!!!!!!!! IMPORTANT !!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!
-->
<Enforce>
  <!--
    *************************************************************************
    NEWER
    The following section describe how to exploit the XML export to access
    the read Analytics fields using the generic #Analytics()# token.
    It can be used to access any Analytics field given its name.
    *************************************************************************
  -->
```

```xml
<DoP>#Analytics(GeometricDop)#</DoP>
<DoP>#Analytics(PositionDop)#</DoP>
<DoP>#Analytics(TimeDop)#</DoP>
<DoP>#Analytics(HorizontalDop)#</DoP>
<DoP>#Analytics(VerticalDop)#</DoP>
<DoP>#Analytics(EastingDop)#</DoP>
<DoP>#Analytics(NorthingDop)#</DoP>
<ReadWithDash>#Analytics(ReadWithSeparators)#</ReadWithDash>
<Speed>#Analytics(Speed)#</Speed>
<ConfidenceScore>#Analytics(Confidence Score)#</ConfidenceScore>
<!--
    ************************************************************************
    NEWER
    The following section describe how to exploit the XML export to access
    the read Analytics fields using the generic #Analytics()# token.
    It can be used to access any Analytics field given its name.
    ************************************************************************
-->
<GeometricDop>#Analytics(GeometricDop)#</GeometricDop>
<PositionDop>#Analytics(PositionDop)#</PositionDop>
<TimeDop>#Analytics(TimeDop)#</TimeDop>
<HorizontalDop>#Analytics(HorizontalDop)#</HorizontalDop>
<VerticalDop>#Analytics(VerticalDop)#</VerticalDop>
<EastingDop>#Analytics(EastingDop)#</EastingDop>
<NorthingDop>#Analytics(NorthingDop)#</NorthingDop>
<Speed>#Analytics(Speed)#</Speed>
<ConfidenceScore>#Analytics(Confidence Score)#</ConfidenceScore>
<ReadWithDash>#Analytics(ReadWithSeparators)#</ReadWithDash>
<ActualPlate>#ActualPlate#</ActualPlate>
<!--
    ************************************************************************
    NEW
    The following section describes the supported tags using the new format.
    ************************************************************************
-->
<IsPlateExpired>#ISPLATEEXPIRED#</IsPlateExpired>
<IsPayZone>#ISPAYZONE#</IsPayZone>
<PlateStatus>#PLATESTATUS#</PlateStatus>
<HitId>#HIT_ID#</HitId>
<HitType>#HIT_TYPE#</HitType>
<ReadId>#READ_ID#</ReadId>
<PlateRead>#PLATE_READ#</PlateRead>
<PlateState>#PLATE_STATE#</PlateState>
<ReadType>#READTYPE#</ReadType>
<PermitName>#PERMIT_NAME#</PermitName>
<RuleId>#RULE_ID#</RuleId>
<RuleName>#RULE_NAME#</RuleName>
<UnitName>#UNIT_NAME#</UnitName>
<UnitId>#UNIT_ID#</UnitId>
<UserName>#USER_NAME#</UserName>
<UserLogin>#USER_LOGIN#</UserLogin>
<UserId>#USERId#</UserId>
<PermitId>#PERMIT_ID#</PermitId>
<ParkingPermitId>#PARKING_PERMIT_ID#</ParkingPermitId>
<Longitude>#LONGITUDE#</Longitude>
<Latitude>#LATITUDE#</Latitude>
<LprImagePath>#PLATE_IMAGE#</LprImagePath>
<ContextImagePath>#CONTEXT_IMAGE#</ContextImagePath>
<TireImagePath>#TIRE_IMAGE#</TireImagePath>
<TimeStamp>#DATE_LOCAL#{yyyy-MM-dd} #TIME_LOCAL#{HH:mm:ss}</TimeStamp>
<TimeStampUTC>#DATE_UTC#{yyyy-MM-dd} #TIME_UTC#{HH:mm:ss}</TimeStampUTC>
<OvertimeVehicleId>#OVERTIME_READ_ID#</OvertimeVehicleId>
<OvertimePlateRead>#OVERTIME_PLATE_READ#</OvertimePlateRead>
<OvertimePlateState>#OVERTIME_PLATE_State#</OvertimePlateState>
<OvertimeReadType>#OVERTIME_READTYPE#</OvertimeReadType>
<OvertimePermitName>#OVERTIME_PERMIT_NAME#</OvertimePermitName>
<OvertimeRuleId>#OVERTIME_RULE_ID#</OvertimeRuleId>
<OvertimeRuleName>#OVERTIME_RULE_NAME#</OvertimeRuleName>
<OvertimeUnitName>#OVERTIME_UNIT_NAME#</OvertimeUnitName>
<OvertimeUnitId>#OVERTIME_UNIT_ID#</OvertimeUnitId>
<OvertimeUserName>#OVERTIME_USER_NAME#</OvertimeUserName>
<OvertimeUserLogin>#OVERTIME_USER_LOGIN#</OvertimeUserLogin>
<OvertimeUserId>#OVERTIME_USER_ID#</OvertimeUserId>
<OvertimePermitId>#OVERTIME_PERMIT_ID#</OvertimePermitId>
<OvertimeLongitude>#OVERTIME_LONGITUDE#</OvertimeLongitude>
<OvertimeLatitude>#OVERTIME_LATITUDE#</OvertimeLatitude>
<OvertimeLprImagePath>#OVERTIME_PLATE_IMAGE#</OvertimeLprImagePath>
<OvertimeContextImagePath>#OVERTIME_CONTEXT_IMAGE#</OvertimeContextImagePath>
<OvertimeTireImagePath>#OVERTIME_TIRE_IMAGE#</OvertimeTireImagePath>
<OvertimeTimeStamp>#OVERTIME_DATE_LOCAL#{yyyy-MM-dd} #OVERTIME_TIME_LOCAL#{HH:mm:ss}</OvertimeTimeStamp>
<OvertimeTimeStampUTC>#OVERTIME_DATE_UTC#{yyyy-MM-dd} #OVERTIME_TIME_UTC#{HH:mm:ss}</OvertimeTimeStampUTC>
<OvertimeElapseMinutes>#OVERTIME_ELAPSEMINUTES#</OvertimeElapseMinutes>
<OvertimeElapseSeconds>#OVERTIME_ELAPSESECONDS#</OvertimeElapseSeconds>
<OvertimeElapseHours>#OVERTIME_ELAPSEHOURS#</OvertimeElapseHours>
<!--
    ************************************************************************
    LEGACY
    The following section describes the supported tags using the legacy format.
    It can still be used but they have been deprecated since Patroller 6.2.
    ************************************************************************
-->
<IsPlateExpired>%IsPlateExpired%</IsPlateExpired>
<IsPayZone>%IsPayZone%</IsPayZone>
<PlateStatus>%PlateStatus%</PlateStatus>
```

```
<HitId>%HitId%</HitId>
<HitType>%HitType%</HitType>
<UserAction>%UserAction%</UserAction>
<VehicleId>%VehicleId%</VehicleId>
<Plate>%Plate%</Plate>
<State>%State%</State>
<ReadType>%ReadType%</ReadType>
<PermitName>%PermitName%</PermitName>
<ZoneName>%ZoneName%</ZoneName>
<UnitName>%UnitName%</UnitName>
<UnitId>%UnitId%</UnitId>
<UserName>%UserName%</UserName>
<UserLogin>%UserLogin%</UserLogin>
<UserId>%UserId%</UserId>
<PermitId>%PermitId%</PermitId>
<ParkingPermitId>%ParkingPermitId%</ParkingPermitId>
<ZoneId>%ZoneId%</ZoneId>
<GpsX>%GpsX%</GpsX>
<GpsY>%GpsY%</GpsY>
<LprImagePath>%LprImagePath%</LprImagePath>
<ContextImagePath>%ContextImagePath%</ContextImagePath>
<TireImagePath>%TireImagePath%</TireImagePath>
<TimeStamp>%TimeStamp%</TimeStamp>
<TimeStampUTC>%TimeStampUTC%</TimeStampUTC>
<OvertimeVehicleId>%OvertimeVehicleId%</OvertimeVehicleId>
<OvertimePlate>%OvertimePlate%</OvertimePlate>
<OvertimeState>%OvertimeState%</OvertimeState>
<OvertimeReadType>%OvertimeReadType%</OvertimeReadType>
<OvertimePermitName>%OvertimePermitName%</OvertimePermitName>
<OvertimeZoneName>%OvertimeZoneName%</OvertimeZoneName>
<OvertimeUnitName>%OvertimeUnitName%</OvertimeUnitName>
<OvertimeUnitId>%OvertimeUnitId%</OvertimeUnitId>
<OvertimeUserName>%OvertimeUserName%</OvertimeUserName>
<OvertimeUserLogin>%OvertimeUserLogin%</OvertimeUserLogin>
<OvertimeUserId>%OvertimeUserId%</OvertimeUserId>
<OvertimePermitId>%OvertimePermitId%</OvertimePermitId>
<OvertimeZoneId>%OvertimeZoneId%</OvertimeZoneId>
<OvertimeGpsX>%OvertimeGpsX%</OvertimeGpsX>
<OvertimeGpsY>%OvertimeGpsY%</OvertimeGpsY>
<OvertimeLprImagePath>%OvertimeLprImagePath%</OvertimeLprImagePath>
<OvertimeContextImagePath>%OvertimeContextImagePath%</OvertimeContextImagePath>
<OvertimeTireImagePath>%OvertimeTireImagePath%</OvertimeTireImagePath>
<OvertimeTimeStamp>%OvertimeTimeStamp%</OvertimeTimeStamp>
<OvertimeTimeStampUTC>%OvertimeTimeStampUTC%</OvertimeTimeStampUTC>
<OvertimeElapseMinutes>%OvertimeElapseMinutes%</OvertimeElapseMinutes>
<OvertimeElapseSeconds>%OvertimeElapseSeconds%</OvertimeElapseSeconds>
<OvertimeElapseHours>%OvertimeElapseHours%</OvertimeElapseHours>
</Enforce>
```

Analytics fields

The following tables define the read analytics fields that are available through the *HitExportTemplate.xml* file. The read analytics can be accessed using the generic `#Analytics()#` token. For example, to access the GeometricDop analytic, use `<GeometricDop>#Analytics(GeometricDop)#</GeometricDop>`
NOTE:

- Analytics are not available for plate reads that are entered manually. Existing analytics for a plate read are not modified if you edit the read.
- Dilution of precision (DOP) describes the temporary reduction of the ability of the system to precisely geocode your location due to the current position of the satellites. DOP analytics are only available with AutoVu™ base units that include the navigation option.

Field (Patroller 6.5 SR3 and later)	Description
GeometricDop	Geometric dilution of precision (GDOP) indicates accuracy degradation in 3D position and time. NOTE: GDOP is the most useful DOP to be aware of. The value includes all of the available factors.
PositionDop	Position dilution of precision (PDOP) indicates accuracy degradation in 3D position.
TimeDop	Time dilution of precision (TDOP) indicates the clock offset.
HorizontalDop	Horizontal dilution of precision (HDOP) indicates accuracy degradation in the horizontal direction.
VerticalDop	Vertical dilution of precision (VDOP) indicates accuracy degradation in the vertical direction.
EastingDop	Easting dilution of precision (EDOP) indicates accuracy degradation in the east component of the horizontal direction interpretation.
NorthingDop	Northing dilution of precision (NDOP) indicates accuracy degradation in the north component of the horizontal direction interpretation.
Speed	Sharp cameras are able to estimate a vehicle's approximate speed. NOTE: For a mobile AutoVu installation, the Patroller vehicle must be stopped for this feature to work.
ConfidenceScore	Numerical value (from 0 to 100). This value tells you how confident the Sharp is in the accuracy of the read. A value of 100 indicates the highest confidence.
ReadWithSeparators	Exports dash characters that appear in plate reads. NOTE: Analytics are not available for plate reads that are entered manually. Existing analytics for a plate read are not modified if you edit the read. For this reason, we recommend that you use the *ActualPlate* hashtag instead of the *ReadWithSeparators* analytic.

General fields

The following tables define the general fields and the type of data output from the *HitExportTemplate.xml* file for systems running Patroller 6.5 SR3 and later.

Field Patroller 6.5 SR3 and later	Description
ActualPlate	To export the dash in license plate reads (for example ABC-123), modify `<PlateRead>#PLATE_READ#</PlateRead >` to `<PlateRead>#ActualPlate#</PlateRead >`.

General fields

The following tables define the general fields and the type of data output from the *HitExportTemplate.xml* file for systems running older versions of Patroller.

Field (Patroller 6.1 and earlier)	Field (Patroller 6.2 and later)	Description
IsPlateExpired	IsPlateExpired	"True" or "False" boolean value that indicates if the license plate is expired or not.
IsPayZone	IsPayZone	"True" or "False" boolean value indicating if the selected zone is a "pay by zone" parking area.
PlateStatus	PlateStatus	Specifies the status of the plate. The possible values are: Expired, Valid, and NotChecked.
HitId	Hit_Id	The hit ID output as a GUID. For example: 000000000-0000-0000-000000000000.
HitType	Hit_Type	The type of hit. Possible values are: Hotlist, Overtime, Permit, and SharedPermit.
VehicleId	Read_Id	The vehicle's ID output as a GUID. For example: 000000000-0000-0000-000000000000.
Plate	Plate_Read	The license plate number. For example, ABC123.
State	Plate_State	The license plate's issuing state or province. For example: QC.
ReadType	ReadType	The type of read. Possible values are Standard, Permit, Overtime, SharedPermit.
PermitName	Permit_Name	Permit entity name.
ZoneName	Rule_Name	Permit zone name (parking lot, permit restriction, and so on). Used in University Parking Enforcement only.
UnitName	Unit_Name	The name given to the Patroller unit in Patroller Config Tool.
UnitId	Unit_Id	The Patroller unit's GUID ID. For example: 000000000-0000-0000-000000000000.
UserName	User_Name	The Patroller operator's Security Center username.
UserLogin	User_Login	The Patroller operator's login name.
UserId	UserId	The Patroller user's GUID ID. For example: 000000000-0000-0000-000000000000.
PermitId	Permit_Id	The selected permit's GUID ID. For example: 000000000-0000-0000-000000000000.
ParkingPermitId	Parking_Permit_Id	The selected shared permit's GUID ID. For example: 000000000-0000-0000-000000000000.
ZoneId	Rule_Id	The selected zone's GUID ID. For example: 000000000-0000-0000-000000000000.
GpsX	Longitude	The Patroller's longitude in decimal degrees for when the hit occurred. For example: -73.5878100.
GpsY	Latitude	The Patroller's latitude in decimal degrees for when the hit occurred.

Field (Patroller 6.1 and earlier)	Field (Patroller 6.2 and later)	Description
		For example: 45.5088400.
LprImagePath	Plate_Image	The location of the ALPR image on the Patroller in-vehicle computer.
ContextImagePath	Context_Image	The location of the context image on the Patroller in-vehicle computer.
TireImagePath	Tire_Image	The location of the tire image on the Patroller in-vehicle computer.
TimeStamp	Date_Local Time_Local	The plate read timestamp. For example: 8/15/2014 12:04:07.
TimeStampUTC	Date_UTC Time_UTC	The plate time stamp in Coordinated Universal Time (UTC). For example: 8/15/2014 4:04:07.

Overtime fields

The remaining fields in the *HitExportTemplate.xml* are related to the first plate read captured during the *first* pass in an overtime enforcement scenario.

Field Patroller 6.1 and earlier	Field Patroller 6.2 and later	Description
OvertimeVehicleId	Overtime_Read_Id	The vehicle's ID output as a GUID. For example: 000000000-0000-0000-000000000000.
OvertimePlate	Overtime_Plate_Read	The license plate number. For example, ABC123.
OvertimeState	Overtime_Plate_State	The license plate's issuing state or province. For example: QC.
OvertimeReadType	Overtime_ReadType	The type of read. Possible values are Standard, Permit, Overtime, SharedPermit.
OvertimePermitName	Overtime_Permit_Name	Permit entity name.
OvertimeZoneName	Overtime_Rule_Name	Permit zone name. For example, parking lot or permit restriction name. Used in University Parking Enforcement only.
OvertimeUnitName	Overtime_Unit_Name	The name given to the Patroller unit in Patroller Config Tool.
OvertimeUnitId	Overtime_Unit_Id	The Patroller unit's GUID ID. For example: 000000000-0000-0000-000000000000.
OvertimeUserName	Overtime_User_Name	The Patroller operator's Security Center username.
OvertimeUserLogin	Overtime_User_Login	The Patroller operator's login name.
OvertimeUserID	Overtime_User_ID	The Patroller user's GUID ID. For example: 000000000-0000-0000-000000000000.
OvertimePermitId	Overtime_Permit_Id	The selected permit's GUID ID. For example: 000000000-0000-0000-000000000000.
OvertimeZoneId	Overtime_Rule_Id	The selected zone's GUID ID. For example: 000000000-0000-0000-000000000000.
OvertimeGpsX	Overtime_Longitude	The Patroller's longitude (x-coordinate) in decimal degrees for when the hit occurred. For example: -73.5878100.
OvertimeGpsY	Overtime_Latitude	The Patroller's latitude (y-coordinate) in decimal degrees for when the hit occurred. For example: 45.5088400.
OvertimeLprImagePath	Overtime_Plate_Image	The location of the ALPR image on the Patroller in-vehicle computer.
OvertimeContextImagePath	Overtime_Context_Image	The location of the context image on the Patroller in-vehicle computer.
OvertimeTireImagePath	Overtime_Tire_Image	The location of the tire image on the Patroller in-vehicle computer.
OvertimeTimeStamp	Overtime_Date_Local Overtime Time Local	The plate read timestamp. For example: 8/15/2014 12:04:07.
OvertimeTimeStampUTC	Overtime_Date_UTC Overtime_Time_UTC	The plate time stamp in Coordinated Universal Time (UTC). For example: 8/15/2014 4:04:07.
OvertimeElapseMinutes	Overtime_ElapseMinutes	The time (in minutes) between the first pass read plate read and second pass plate read.

Field Patroller 6.1 and earlier	Field Patroller 6.2 and later	Description
OvertimeElapseSeconds	Overtime_ElapseSeconds	The time (in seconds) between the first pass read plate read and second pass plate read.
OvertimeElapseHours	Overtime_ElapseHours	The time (in hours) between the first pass read plate read and the second pass plate read.

Hit export XML output example (legacy system)

In the following example, since no permit zone was specified, the ZoneName and OvertimeZoneName fields are replaced by empty fields.

```xml
<?xml version="1.0" encoding="UTF-8"?>
<Enforce>
    <IsPlateExpired>True</IsPlateExpired>
    <IsPayZone>False</IsPayZone>
    <PlateStatus>NotChecked</PlateStatus>
    <HitId>786088dd-05e7-49af-a278-687b90878109</HitId>
    <HitType>SharedPermit</HitType>
    <UserAction>None</UserAction>
    <VehicleId>5a08f724-98d7-4510-8a20-01558d14fa56</VehicleId>
    <Plate>015WNJ</Plate>
    <State>QC</State>
    <ReadType>Standard, Permit</ReadType>
    <PermitName>Genetec</PermitName>
    <ZoneName/>
    <UnitName>Sample Patroller</UnitName>
    <UnitId>2d88a0af-63ee-4df7-a4e3-e83223873d33</UnitId>
    <UserName>PatrollerUser</UserName>
    <UserLogin>PATROLLERUSER</UserLogin>
    <UserId>ef6f85a7-4bf1-4c36-a6ac-a561035a4575</UserId>
    <PermitId>4e227340-bfb4-4c27-a04b-5dffde100f25</PermitId>
    <ParkingPermitId>101</ParkingPermitId>
    <ZoneId>00000000-0000-0000-0000-000000000000</ZoneId>
    <GpsX>-73.4140616187016</GpsX>
    <GpsY>45.5982875705029</GpsY>
    <LprImagePath>C:\PBP\5a08f72498d745108a2001558d14fa56lpr.jpg</LprImagePath>
    <ContextImagePath>C:\PBP\5a08f72498d745108a2001558d14fa56context.jpg</ContextImagePath>
    <TireImagePath>C:\PBP\5a08f72498d745108a2001558d14fa56tire.jpg</TireImagePath>
    <TimeStamp>8/15/2014 12:06:41 PM</TimeStamp>
    <TimeStampUTC>8/15/2014 4:06:41 PM</TimeStampUTC>
    <OvertimeVehicleId>a579afcb-35e0-4e08-8367-36ad04196901</OvertimeVehicleId>
    <OvertimePlate>005ZQB</OvertimePlate>
    <OvertimeState>QC</OvertimeState>
    <OvertimeReadType>Standard, Permit</OvertimeReadType>
    <OvertimePermitName>Genetec</OvertimePermitName>
    <OvertimeZoneName/>
    <OvertimeUnitName>Sample Patroller</OvertimeUnitName>
    <OvertimeUnitId>2d88a0af-63ee-4df7-a4e3-e83223873d33</OvertimeUnitId>
    <OvertimeUserName>PatrollerUser</OvertimeUserName>
    <OvertimeUserLogin>PATROLLERUSER</OvertimeUserLogin>
    <OvertimeUserId>ef6f85a7-4bf1-4c36-a6ac-a561035a4575</OvertimeUserId>
    <OvertimePermitId>4e227340-bfb4-4c27-a04b-5dffde100f25</OvertimePermitId>
    <OvertimeZoneId>00000000-0000-0000-0000-000000000000</OvertimeZoneId>
    <OvertimeGpsX>-73.4143994826998</OvertimeGpsX>
    <OvertimeGpsY>45.598502570503</OvertimeGpsY>
    <OvertimeLprImagePath>C:\PBP\Overtime5a08f72498d745108a2001558d14fa56lpr.jpg</OvertimeLprImagePath>
    <OvertimeContextImagePath>C:\PBP\Overtime5a08f72498d745108a2001558d14fa56context.jpg</OvertimeContextImagePath>
    <OvertimeTireImagePath>C:\PBP\Overtime5a08f72498d745108a2001558d14fa56tire.jpg</OvertimeTireImagePath>
    <OvertimeTimeStamp>8/15/2014 12:06:33 PM</OvertimeTimeStamp>
    <OvertimeTimeStampUTC>8/15/2014 4:06:33 PM</OvertimeTimeStampUTC>
    <OvertimeElapseMinutes>0.125975558333333</OvertimeElapseMinutes>
    <OvertimeElapseSeconds>7.5585335</OvertimeElapseSeconds>
    <OvertimeElapseHours>0.00209959263888889</OvertimeElapseHours>
</Enforce>
```

5 | Patroller Config Tool Reference

5.1 | General page in Genetec Patroller™ Config Tool

The General settings page allows you to configure basic Genetec Patroller™ options such as the Patroller unit's name, how users should log on, etc.

Patroller Standalone is not connected to Security Center, therefore for some settings it is indicated that they are not applicable for Patroller Standalone. These settings do not appear in Genetec Patroller™ Config Tool.

Patroller name
Enter the name of the Patroller unit as you want it to be seen in Security Center and Security Desk.

Logon type (not applicable to Patroller Standalone)
Select how to log on to Patroller.

SQL Server
The address and name of the SQL Server.

Database name
You can leave the default database name, or change it to whatever you want. You can change this name at any time to create a new database.

Use Windows authentication
Turn on this feature if you want Patroller to connect to its database using Windows credentials.

User ID
The User ID to connect to the Patroller database. This User ID was entered during Patroller installation.

Password

The password to connect to the Patroller database. This password was entered during Patroller installation.

Advanced

Configure Advanced settings for the Patroller database.

Max logout

Set the amount of time (in hours) that a user can be logged out and still resume their shift when logging back on. When this period has elapsed, or if a different user logs on, the system sees this as the start of a new shift and the data presented to the user reflects that. A value of 0 deactivates this feature, meaning that a new shift begins anytime a user logs in. The default logout time is 4 hours.

Store reads for

Set the amount of time that reads are stored in the Patroller database. Reads older than this value are deleted from the database at the start of the next shift. The default storage time is 96 hours.

Store hits for

Set the amount of time that hits are stored in the database. Hits older than this value are deleted from the database at the start of the next shift. The default storage time is 120 hours.

Record search

Set the amount of time that records (reads or hits) are searchable by the Patroller user. Records older than this value will no longer be searchable at the start of the next shift. The default search time is 48 hours.

Record display

Set the amount of time that a record can be displayed. The default time is 12 hours.

Folder path

Click browse or type the folder path where the system stores the ALPR images, context images, and wheel images associated with overtime enforcement. The default location is C:\Program Files (x86)\Genetec AutoVu 6.7 \Data.
WARNING: License plate read images are now stored directly on the file system. Image files are not encrypted because SQL Server Express does not support FILESTREAM encryption. You can manage access to the image folder using NTFS or a device encryption solution such as BitLocker.
IMPORTANT:

- Ensure that the disk has enough free space to store the database and license plate read images according to the retention period.
- Exclude the folder path from the antivirus scan running on the computer.
- If you change the folder path, ensure that the new folder has read-write access authorization.

Offload query timeout

Define the timeout duration for the offload queries. The default timeout is 1800 seconds.

Extra parameters

The string to connect to the Patroller database.
NOTE: You should not need to configure this option since SQL is installed automatically, or an existing SQL instance is used when you install Patroller.

Test connection

Test the connection to the Patroller database with the options selected.
Browse

- Naming the Patroller patrol vehicle
- Configuring Patroller logon options
- Configuring Patroller database options

5.2 | Cameras page in Genetec Patroller™ Config Tool

The Cameras page allows you to add Sharp camera units to your network, and configure basic settings related to Patroller's interaction with the Sharp cameras. You can also enable Sharp analytics, which provide information on vehicle speed, relative motion, and more.

Browse

- Connecting mobile Sharp units to Patroller

5.2.1 | Cameras - Units tab in Genetec Patroller™ Config Tool

The Units tab allows you to add a Sharp unit toGenetec Patroller™ Config Tool, and to configure its settings.

Units

These are the Sharp units connected to your in-vehicle LAN.

Add a Sharp (✚)

Manually add a Sharp unit to the network. Do the following:

- You'll need to enter the Sharp unit name. This is the IP address of the Sharp, for example, 192.168.10.1.
- You also need to specify the camera's orientation, meaning where it's installed on the vehicle (front right, front left, and so on).

NOTE: Depending on the hardware options, SharpX or SharpZ3 systems can contain one or two SBCs (Single Board Computers) which are referred to here as *Units*. Cameras for each unit must be named "Lpr Camera ", "Lpr Camera 2", and so on (case sensitive).

Remove a Sharp (✗)

Remove a Sharp camera from Genetec Patroller™.

Edit a Sharp (✏)

Edit the Sharp's connection settings to Patroller.

Configure the Sharp (🖥)

Opens the Sharp Portal in a web browser so you can configure the Sharp's properties.

Discovery port

When you use the Start discovery option to auto-detect Sharp units on the network, Patroller will search for Sharps connected on this port.

Default value is 5000.

NOTE: This discovery port must match the discovery port you set in the Sharp Portal for each Sharp. For more information, see the *Sharp Administrator Guide*.

Start discovery

Automatically detect installed Sharp cameras and add them to the network. You will still need to specify each camera's orientation (front right, front left, and so on). This is the preferred method of adding Sharps to the network.

Pause reads on startup

Turn on to have plate reading paused when you log on to Patroller.

Fuse reads from multiple cameras

For patrol vehicles that are configured with forward-facing and rear-facing cameras, you can fuse reads from multiple cameras to improve the capture rate and read rate. If the vehicle includes front and rear-facing cameras, enabling this feature associates the cameras that might read the same license plate. This means reads from both left-facing cameras are fused and reads from both right-facing cameras reads are fused.
IMPORTANT: To fuse reads, you must enable the *Give a confidence score for reads* feature in the Analytics section of the Sharp Portal Configuration page.
NOTE: When this feature is enabled, there is a short plate read delay which allows both cameras to read the plate and then display the image with the best confidence score. You can configure how long the system waits for the second plate read (*Maximum latency* default: 3 seconds) in the Advanced configuration page.

Minimum confidence score

You might want to configure a minimum confidence score if you notice too many incorrect plate reads.

The Sharp camera assigns a numerical value (from 0 to 100) to each license plate read, indicating how confident the Sharp is in the accuracy of the read. Patroller ignores reads that are below the minimum confidence score you define.

NOTE: Setting the minimum confidence score to *0* (default) accepts all plate reads and hits.
IMPORTANT: For the confidence score of plate reads to be available, you must enable the *Give a confidence score for reads* feature in the Analytics section of the Sharp Portal Configuration page.

Camera exposure on startup

Use the slider to set the initial value for the camera exposure control when you first login to the application.

Use additional context images

Patrol vehicles can include additional context cameras to provide a more detailed view of the environment when plate reads are captured. You can fine-tune the timing of the additional context images to ensure that the target vehicle is in frame when the cameras are triggered.

Capture sequence for reads coming from

Timing is controlled by triggering each auxiliary camera a certain distance (in meters) before or after the plate read location.

Context camera

Enter the required information according to the context camera model. For more information, see Configuring additional context cameras in Patroller.
Parent topic: Cameras page in Genetec Patroller™ Config Tool
Browse

- Configuring additional context cameras in Patroller

5.2.2 | Cameras - Analytics tab in Genetec Patroller™ Config Tool

Based on the license plate and context images, Sharp cameras can provide analytical information such as the speed, type, and color.

NOTE: The vehicle make, vehicle type, and vehicle color anaytics are generated by the AutoVu™ Machine Learning Core (AutoVu MLC™). The accuracy of these analytics improve as AutoVu MLC™ continues to develop.

Confidence score

The Sharp assigns a numerical value (from 0 to 100) to each license plate read. This value tells you how confident the Sharp is in the accuracy of the read. A value of 100 indicates the highest confidence. License plates that contain similar characters such as *8* and *B* are more difficult to read and generally produce reads with a lower confidence score.

Prefix

Certain license plates have sections that contain numbers or text that have a specific meaning. For example, a number that represents a city or a borough.

The Sharp with the corresponding ALPR contexts can read these sections and display the result in the "Prefix" value.

Relative motion
The Sharp can detect if the vehicle is getting closer or moving away.
NOTE: This analytic is generally not used with mobile Sharp units.

Speed
Sharp cameras are able to estimate a vehicle's approximate speed.

For a mobile AutoVu installation, the Patroller vehicle must be stopped for this feature to work.
NOTE: This analytic is generally not used with mobile Sharp units.

Vehicle make
Sharp cameras can recognize the make of certain vehicles, for example, Ford or Honda.
NOTE: The Sharp must see the vehicle's logo for this feature to work.

Vehicle type from plate
Certain license plates include character symbols that identify specific vehicle types, for example, taxi, transport, and so on. The Sharp can read these symbols from the ALPR image, and display the vehicle type along with the other read and hit information.

Vehicle type
Sharp cameras can detect the vehicle type based on the context image. The system can detect if the vehicle is a bus, passenger vehicle, motorcycle, pickup, truck, or a work van. If the vehicle type cannot be detected, the vehicle is flagged as "unknown".

Vehicle color
Sharp cameras can detect the vehicle color based on the context image. The system can detect black, white, blue, brown, green, gray, orange, red, and yellow. Colors are also assigned *light*, *neutral*, or *dark* according to the color analysis.
NOTE: At night, only *light*, *neutral*, or *dark* are detected.
Parent topic: Cameras page in Genetec Patroller™ Config Tool

5.3 | Operation page in Genetec Patroller™ Config Tool

The Operation page allows you to configure options related to Genetec Patroller™ operation and enforcement.

5.3.1 | Operation – General tab in Genetec Patroller™ Config Tool

Configure the general options that apply to all types of hits.

Pause reads while enforcing
Turn on to pause Genetec Patroller™ plate reading while you're in the process of accepting or enforcing a hit.

Allow popup hit
Turn on for Patroller to display hits on screen as they occur. Turn off for hits to accumulate in the background.

First hit on top
Choose the order that hits are displayed. Turn on to display the oldest hit first (right side of the Patroller scrollbar). Turn off to display the latest hit first.

Enable plate editing
Turn on to allow editing of license plate characters when you receive a hit. From the hit screen, click or tap the plate text string to open the editor.

Text-to-speech voice (not applicable to Genetec Patroller™ Standalone)
Select the voice you want to use for notifications, such as when the patrol vehicle is entering and exiting a zone and the name of the zone. Select None to disable the option.

NOTE: The voices that are available depend on your Windows operating system.

Trigger output relay on hit
Turn on to activate a AutoVu™ base unit output when the system registers a hotlist hit. Using this feature, you could, for example, configure a video recording system within the patrol vehicle to activate when the license plate of a known offender is detected.

Output relay
Select the output relay to trigger when a hotlist hit is registered.

Duration (ms)
Configure the trigger duration between 500 and 60000 milliseconds.

Parent topic: Operation page in Genetec Patroller™ Config Tool

5.3.2 | Operation – Hotlists tab in Genetec Patroller™ Config Tool

Configure hotlist-related options.

NOTE: You set New wanted attributes and categories in Security Center Config Tool.

Allow consecutive hits
Turn on to allow sequential hits for the same plate. For example, if you capture a plate that raises a hit, and then capture the same plate again, it will raise another hit.
NOTE: If you turn this setting off, Genetec Patroller™ would need to capture a new plate before allowing a hit for the same plate.

Enable new wanted
Turn on to allow Patroller users to add New wanted hotlist entries.

Enable new wanted management
Turn on to allow Patroller users to edit and delete New wanted entries from the database.

Enable comments for new wanted
Turn on to activate a text box in Patroller where you can enter a comment when entering a New wanted hotlist item.

New wanted expiry options (days)
Create the expiry options available to the Patroller user when adding a New wanted entry.

For example, let's say you create the options 1, 5, and 10. When you add a New wanted entry, you'll be able to choose for that entry to expire in 1, 5, or 10 days. If you don't provide an expiration option, New wanted entries will remain in the Patroller database indefinitely.

Add expiration option ( )
Enter an expiration option (in days). Maximum value is 100.

Delete expiration option ( )
Delete an existing expiration option.

Enable Selectable hotlist
Turn on to allow Patroller users to select which hotlists among those available on the Patroller are used to generate Hits.

Enable past read matching
Turn on to compare reads from the past with a new hotlist, or new wanted plates that have been manually added.

Past read matching look back
Enter how long in hours you would like Patroller to look back in the database for reads that match a new hotlist, or new wanted entry.

Bypass hit enforcement
Turn on to bypass the additional step of enforcing a hit after accepting it. When turned on, Patroller assumes you enforced the hit, and will not display the Enforced/Not enforced prompt.

Auto-enforce hotlist hits
Turn on for Patroller to run in unattended mode. Hits are automatically accepted and enforced without requiring user interaction.
NOTE: If you have configured "Hit accept" or "Hit reject reasons", they are ignored when this setting is on.

Display hits by priority
Turn on to display hits in Patroller by the priority you specified in Security CenterConfig Tool.

For example, if you have set "Hotlist A" to a higher priority than "Hotlist B", hits generated from Hotlist A will be displayed first (on the right of the Patroller scrollbar).

Use simple matcher
Turn on Simplematcher when using very large hotlists with millions of entries. You'll also need to turn off OCR equivalence in the ALPR matcher. For more information about configuring ALPR matcher settings, see Configuring ALPR matcher settings.
Parent topic: Operation page in Genetec Patroller™ Config Tool
Browse

- Configuring New Wanted Patroller options
- Configuring hotlist settings

5.3.3 | Operation – MLPI tab in Genetec Patroller™ Config Tool

Enable and configure options related to Mobile License Plate Inventory.

NOTE: This tab is only available in MLPI mode.

Enable read deletion
Allows you to delete the plate read from the information panel of the Genetec Patroller™ main window. This is useful to correct any mistakes before the plate data is offloaded.

For example, if you have misreads, or did a sweep but specified the wrong location before you started, you can delete those reads before they are offloaded to Security Center.

NOTE: This only applies to plates that are read when an MLPI zone is selected.

Enable read modification
Allows you to modify plate numbers from the information panel of the Patroller main window. This is useful if a plate is misread and you want to correct it before offloading the data.

Enable too many reads popup
Patroller will trigger an alarm (sound or warning message) if the reads collected during your sweep of a row exceed the number of spaces specified in the "Space count" for that row.
NOTE: You specify the "Space count" in the Parking facility rule in Security CenterConfig Tool.

Parent topic: Operation page in Genetec Patroller™ Config Tool

5.3.4 | Operation – Overtime tab in Genetec Patroller™ Config Tool

Enable and configure overtime enforcement, wheel imaging (if applicable), and related settings.

NOTE: This tab is not available in Genetec Patroller™ Standalone.

Use overtime
Turn on to enable the use of overtime rules.

Advanced
Click to configure the Advanced overtime settings:

Link read persistence duration
Enter the amount of time that a plate read stored in the Patroller database is considered to be a "time 1" read for a particular overtime rule.

For example, if you enter 8 hours, which is a typical patrol shift. You start your shift and select *OT_Rule1*. You do your first pass and read plate *ABC123* at 9:00 a.m. This is now "time 1" for the rest of the day (until 5:01 P.M.). Even if you close and restart Patroller, the "time 1" for plate *ABC123* for *OT_Rule1* will be 9:00 a.m. If you start Patroller after the duration (8 hours in this example), the 9:00 a.m. read is no longer considered to be a "time 1" read.

NOTE: When a long-term overtime rule is configured, the Link read persistence duration field is ignored. The availability of license plate reads is controlled by the Number of days defined in the overtime rule settings in Security Center Config Tool.

Minutes to due vehicles
Enter the amount of time before the vehicles are due for enforcement. This value determines the *Show Due* functionality in Patroller. The default is 5 minutes.

Preferred Long Term Overtime zone
If you have more than one long-term zone configured in Security Center, you must type the name of the zone you want Patroller to display, since you can only enforce one zone at a time. This value is not case-sensitive.

Enable logs
Turn on to enable logs related to overtime enforcement. This option should only be used for troubleshooting and technical support, if required.

Same position tolerance
This is a buffer used for "Same position" overtime rules. It is the distance that Patroller considers to be a single postion or parking space.

Auto accept overtime hits
Turn this on if you want Patroller to accept hits with no user action. With this feature enabled, the operator cannot manually edit the plate read before it is accepted.

Bypass hit enforcement
Turn on to bypass the additional step of enforcing a hit after accepting it. When turned on, Patroller assumes you enforced the hit, and will not display the Enforced/Not enforced prompt.

Auto enforce overtime hits
Turn on for Patroller to run in unattended mode. Hits are automatically accepted and enforced without requiring user interaction.
NOTE: If you've configured Hit reject reasons, they are ignored when you turn this setting on.

Apply overtime rule to permit holders
Turn this on for locations where parking access can be bought for a limited period. In this configuration, if a plate is read once and is not on the selected permit list, a hit is generated. However, if it is on the list, no hit is generated on the first read. The second read determines if the time limit is exceeded and if a hit is generated. If this option is disabled, permit holders do not generate violations.

Use tire images
Turn on to use wheel imaging. Wheel images are saved to the in-vehicle computer.

Wheel imaging enforced
Select whether wheel imaging is enforced or not from the drop-down list:

Mandatory
The user is required to verify wheel images for both passes in order to enforce a hit.

Optional
The user can enforce a hit without verifying wheel images.

Tire cam-to-plate distance
Specify the distance (in meters) from the tire camera to the vehicle license plate when the car is parked. The default parallel distance is 4 meters, and the default 45 degree angle distance is 3 meters.

Maximum vehicle length
Specify the length of the longest vehicle that can be processed when the car is parallel parked. The default parallel distance is 11 meters, and the default 45 degree angle distance is 5 meters.

Distance travelled before saving
Specify the distance that must be travelled before saving a tire image when the car is parallel parked. The default parallel and 45 degree angle distance is 0.3 meters.
Parent topic: Operation page in Genetec Patroller™ Config Tool
Browse

- Configuring overtime settings
- Configuring long-term overtime settings

5.3.5 | Operation - Pay-by-Plate tab in Genetec Patroller™ Config Tool

Enable and configure options related to the Pay-by-Plate plugin.

NOTE: This tab is only available in City and University mode.

Use Pay-by-Plate
Turn ON to enable Pay-by-Plate plugin.

Disable Enforce button on validation error

ON
Disables Patroller's Enforce button if there is a communication error that prevents Live Infraction Validation from validating the hit.

OFF
Does not disable enforcement if there is a validation error.

The option Disable Enforce button on false hits supersedes this option. If you allow enforcement of false hits, this option has no effect.

Disable Enforce button on false hits

ON
Disables Patroller's *Enforce* button if Live Infraction Validation confirms the captured plate is valid and is in the provider's system (false hit).

OFF
You will receive a message informing you that the hit is invalid, but you will be allowed to enforce it if you choose.

Update permit data on false hits

ON
Updates your selected permit list if the Live Infraction Validation confirms the captured plate is valid and is in the provider's system (false hit).

OFF
You will need to update your permits manually by re-selecting your permits in Genetec Patroller™.

Update permit data on permit selections

ON
When you select a permit to enforce in Patroller, the permit is automatically updated with the latest information from the parking provider's system.

OFF
Permits are only updated when Security Center gets new information from the parking provider, and then updates Patroller using Periodic Transfer (which should be set to one minute).
NOTE: If you turn this setting off, you cannot have permit updates set to "0" in Security Center Config Tool. Doing so would disable automatic updating of permits.

Show synchronization status on permit selection

ON
Displays a popup window after you select a permit that shows the synchronization status between Patroller and Security Center.

OFF
The popup window is not displayed.
IMPORTANT: If you turn this setting off, synchronization will still occur if the Update permit data on permit selections option is enabled. However, you will not know when synchronization is complete, or if there were any errors. It is recommended that you leave this setting on at all times.

Security Center communication port
Enter the port number to use for connecting to the Security Center Pay-by-Plate plugin role (8787 is the default). This must match the port entered in Security Center Config Tool for the setting: Patroller communication port.

Security Center URL
Type the IP address (in the form of a URL) to connect to the Security Center Pay-by-Plate Sync plugin role. For example, if you want to connect to IP address 123.456.78.9, you must type the full address as http://123.456.78.9.
IMPORTANT: Do not include a trailing slash after the IP address.

Security Center URL (failover 1)
If you have failover configured for the Pay-by-Plate sync plugin role, enter the IP address (in the form of a URL) of the first failover server.

Security Center URL (failover 2)
If you have failover configured for the Pay-by-Plate sync plugin role, enter the IP address (in the form of a URL) of the second failover server.

Security Center URL (failover 3)
If you have failover configured for the Pay-by-Plate Sync plugin role, enter the IP address (in the form of a URL) of the third failover server.

Communication timeout (seconds)
Enter how long (in seconds) before a communication request between Patroller and Security Center times out.
Parent topic: Operation page in Genetec Patroller™ Config Tool
Browse

- Configuring Pay-by-Plate settings

5.3.6 | Operation - Permits tab in Genetec Patroller™ Config Tool

Enable and configure permits, shared permits (if applicable), and related options.

Use permit
Turn on to enable the use of permits.

Auto accept permit hits
Turn this on if you want Genetec Patroller™ to accept permit hits with no user action. After the patrol vehicle has passed through the parking area, the operator can then review and enforce the hits.

Bypass permit hit enforcement
Turn on to bypass the additional step of enforcing a hit after accepting it. When turned on, Genetec Patroller™ assumes you enforced the hit, and will not display the Enforced/Not enforced prompt.

Auto enforce permit hits

Turn on for Patroller to run in unattended mode. Hits are automatically accepted and enforced without requiring user interaction.

NOTE: If you've configured Hit reject reasons, they are ignored when you turn this setting on.

Use shared permit

Turn on to enable the use of shared permits.

Auto accept shared permit hits

Turn this on if you want Patroller to accept shared permit hits with no user action. After the patrol vehicle has passed through the parking area, the operator can then review and enforce the hits.

Bypass shared permit hit enforcement

Turn on to bypass the additional step of enforcing a hit after accepting it. When turned on, Patroller assumes you enforced the hit, and will not display the Enforced/Not enforced prompt.

Auto enforce shared permit hits

Turn on for Patroller to run in unattended mode. Hits are automatically accepted and enforced without requiring user interaction.

NOTE: If you've configured Hit reject reasons, they are ignored when you turn this setting on.

Parent topic: Operation page in Genetec Patroller™ Config Tool

Browse

- Configuring permit settings in Patroller

5.3.7 | Operation - Plate link tab in Genetec Patroller™ Config Tool

Register patrol vehicles for use with Plate link so that they can synchronize plate reads and hits from other patrol vehicles that are registered with the same account.

NOTE: This tab is only available when Genetec Patroller™ Config Tool is running in City, University, or Standalone mode.

Register

To share plate read information between patrol vehicles, an AutoVu™ Portal administrator must register the vehicles with the same Plate link account in the portal.

Unregister

You can unregister a patrol vehicle that is currently linked with a Plate link account in the AutoVu™ Portal.

Use Plate link for shared permits

ON

Plate link uploads shared permit reads to be distributed to other patrol vehicles that are registered with the same account.

OFF

Shared permit hits are not distributed to other patrol vehicles.

Use Plate link for overtime

ON

Plate link shares overtime reads (including all wheel images) with other patrol vehicles that are registered with the same account.

OFF

Overtime reads and hits are not shared with other patrol vehicles.

Parent topic: Operation page in Genetec Patroller™ Config Tool

Browse

- About Plate link

5.3.8 | Operation - Curb Sense tab in Genetec Patroller™ Config Tool

Register patrol vehicles for use with Curb Sense™ so that they can send license plate reads to the Curb Sense cloud service.

NOTE: This tab is only available when Genetec Patroller™ Config Tool is running in Curb Sense mode.

Register

Selecting a region connects Genetec Patroller™ to the Curb Sense cloud service. If more than one city is configured in Curb Sense, they are available for selection by the patrol vehicle operator.

Parent topic: Operation page in Genetec Patroller™ Config Tool

5.4 | Navigation page in Genetec Patroller™ Config Tool

The Navigation page allows you to configure options related to Genetec Patroller™ location and movement, such as GPS functionality and map usage.

5.4.1 | Navigation - Equipment tab in Genetec Patroller™ Config Tool

Enable and configure global navigation system options.

Equipment type
Select one of the following options:

None
No navigation equipment is being used.

AutoVu™ Navigation
Select this to use the navigation hardware in the AutoVu base unit.

External GPS
Select this to use the USB GPS receiver that connects to the in-vehicle computer.

External Navigator box
Select this to use the GPS antenna that connects to the AutoVu Navigator box.

Use positioning (AutoVu™ Navigation only)
Slide ON to use the global navigation and positioning hardware in the AutoVu base unit.

Use GPS (External Navigator box only)
Slide ON to use GPS with the AutoVu external Navigator box.

Device
Displays the device name connected to the Genetec Patroller™. Applies to external Navigator Box, external GPS, and AutoVu Navigation system.

- Tap in the field (external Navigator Box and external GPS) to open the Select device dialog box. Choose the appropriate USB device and click OK.
- Click the discovery button Apply(AutoVu navigation) to restart navigation equipment auto discovery when necessary.

Advanced
Tap to configure the advanced GPS settings (external GPS and external Navigator box).

Baud rate
The speed of the GPS communications channel (serial port). The default value is 9600, but some USB GPS devices require a reduced speed of 4800. For example, if you're using Genetec's USB GPS receiver that connects to the in-vehicle computer (model number BU-353S4), you need to change this value to 4800.

(Optional) Force Port
Turn this option on when you want to make sure that Patroller uses the port configured in the Genetec Patroller™ Config Tool. This is useful in the case where you are using two USB GPS devices and you want to prevent Patroller from automatically switching to the other GPS port if it cannot detect the GPS port specified in Genetec Patroller™ Config Tool.

Port
Specify the COM port number of the GPS device as seen in Windows Device Manager.

- If you're using the USB GPS that connects directly to the in-vehicle computer, the name of the device in Device Manager is Prolific USB-to-Serial Comm Port.
- If you're using the GPS antenna that connects to the Navigator box, the name of the device in Device Manager is u-blox 5 GPS and GALILEO Receiver.

GPS initialization string
Displays the initialization commands to be sent to the GPS device when you log on to the application.
IMPORTANT: Do not modify. This is the default firmware setting.

Consecutive invalid strings before restart
Specify the number of consecutive invalid GPS strings allowed before the device is restarted. Invalid GPS strings happen when the GPS signal can't be detected. The default number is 10.
IMPORTANT: You should not need to change this setting.

Noise
Specify the noise value. If the distance from 0,0 to the GPS position is less than the value you define, no GPS event is generated. The default noise value is 5.
IMPORTANT: You should not need to change this setting.

Layout... (AutoVu™ Navigation only)
Tap to enter the GNSS antenna and port positions. This operation is necessary to calibrate the navigation hardware. For details, see the Layout page.

Calibrate...(AutoVu™ Navigation only)
Tap to perform step-by-step odometry and GNSS calibration. For details, see the Calibration procedure.

Monitor...(AutoVu™ Navigation only)
Tap this button to get information about navigation position, malfunctions, and vehicle status. For details, see the Monitor page.

Use odometry (External Navigator box only)
Slide ON to use the Navigator box for odometry as well as global positionning.

Reverse signal active when (External Navigator box only)
Slide ON to indicate that the transmission reverse signal is active when high. Leave it OFF to indicate active when low.

Advanced (External Navigator box only)
Allows you to configure the following Odometry settings:

Scale
Value specified during system calibration.

Sensitivity
Navigator box's sensitivity as measured during calibration using the Oscilloscope tool.

GPS distance tolerance
Maximum GPS distance correction allowed (in meters) when using odometry.

GPS odometry calibration tolerance
Acceptable odometry calibration error (in meters).

Read when car is stopped
Specify whether or not to continue reading plates when the Patroller vehicle is stopped. When doing parking enforcement, Patroller vehicles may stop and reverse frequently.

Read when moving backwards
Specify whether or not to continue reading plates when the Patroller vehicle moves in reverse. When doing parking enforcement, Patroller vehicles may stop and reverse frequently.

Address search radius
Patroller associates a location to each plate read by searching for the closest street name within a 50 m (164 ft) radius. In rural areas where there are fewer streets, you can increase the radius to ensure that at least one street name can be associated.
NOTE: If you use a large radius in an urban area, you might notice system lag due to excessive search results.

Shutdown delay (not applicable for Genetec Patroller™ Standalone)
Specify the number of seconds to wait after the vehicle's ignition is turned off before shutting down the in-vehicle computer. To disable this feature, enter "0".
Parent topic: Navigation page in Genetec Patroller™ Config Tool
Browse

- Process Overview: AutoVu navigation configuration

5.4.2 | Navigation – Equipment tab – Layout in Genetec Patroller™ Config Tool

Configure GNSS equipment layout.
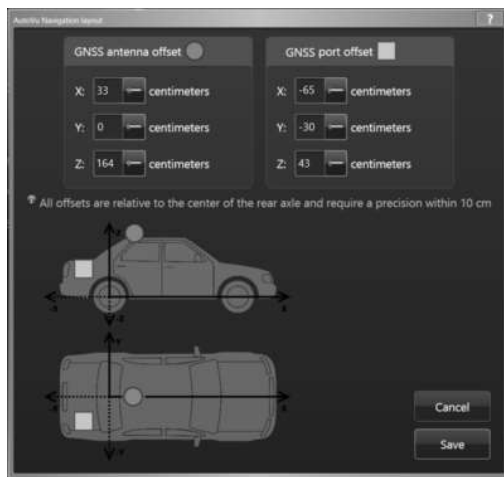
GNSS antenna offset

The purple dot on the graphic represents the position of the GNSS antenna installed on the patrol vehicle. Enter the following values (in centimeters) to configure the antenna layout:

x

The x value represents the position of the equipment relative to the length of the car (rear and front). The zero position being the rear axle, a negative value is behind the rear axle and a positive value is in front of the rear axle.

y

The y axis represents the position of the equipment relative to the width of the car (left or right) when standing behind the vehicle and looking towards it. The zero position being the center of the car, a positive value is towards the left and a negative value is towards the right.

z

The z axis represents the height of the equipment relative to the rear axle. A positive value is positioned above the axle.
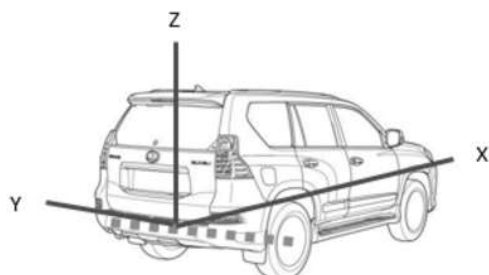
GNSS port offset

The green square on the graphic represents the position of the GNSS connector.

- **SharpZ3**: The GNSS connector is located on the navigation expansion module.

- **SharpX:** The GNSS connector is located on the ALPR Processing Unit face plate.
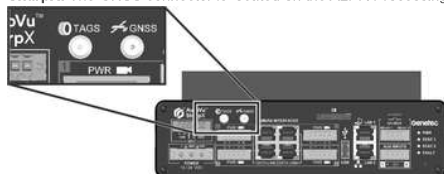
Enter the x, y, and z values as described for the antenna.

Diagram

The diagrams provided on the configuration page are for illustrative purpose only as vehicle models may vary. The symbols will be displayed within the diagram boundaries even if large numbers are entered in the measurements input fields. The axis being modified is highlighted in blue on the diagram.

Parent topic: Navigation page in Genetec Patroller™ Config Tool

Browse

- Process Overview: AutoVu navigation configuration

5.4.3 | Navigation – Equipment tab – Monitor in Genetec Patroller™ Config Tool

Monitor AutoVu navigation hardware status.

GNSS navigation information

The first table in the monitoring page shows the following information:

- Signal quality
- Longitude, latitude, and altitude
- Odometry, heading, and speed
- Number of satellites
- Time

The navigation information table scrolls down automatically to show the most recent data first. Use the scroll bar to go back and stop the automatic scrolling. To reactivate it, scroll completely down to display the most recent data.

Malfunctions

The second table in the monitoring page shows different possible problems with the navigation hardware: high temperature, double information from tags, network connection lost with the navigation module, and others. It is hidden if no malfunction is detected.

Odometry tags status

The third table in the monitoring window shows the odometry tire tags' statistics, and their configuration status. This table also shows the position of the tag that is next to the reader (last read). This information is useful if you need to locate a faulty tire tag.

Vehicle status

Three status are available about the vehicle on which the navigation is installed:

Ignition

Indicates the engine ignition status: ON or OFF.

Vehicle

Indicates the vehicle mobility: still or moving

Direction

Indicates the direction the vehicle is moving: backward or forward.

Parent topic: Navigation page in Genetec Patroller™ Config Tool

Browse

- Process Overview: AutoVu navigation configuration

5.4.4 | Navigation - Maps tab in Genetec Patroller™ Config Tool

Enable and configure maps and related GPS options.

Mapping type

Select the map type from the drop-down list:

None

Do not use maps.

BeNomad

The default map type for AutoVu™.

Show vehicle route

Displays a trail behind the Genetec Patroller™ icon that allows you to see the route Patroller has taken. Turn this setting off to show only the Patroller's current position.

Show parking lots overlay

Turn on to display configured parking lots on the map in the Patroller main viewer.

Snap to road threshold

Specify the maximum distance error (in meters). If the distance between the vehicle and the closest map item is greater than this value, no snapping will occur.

Parent topic: Navigation page in Genetec Patroller™ Config Tool

Browse

- Enabling Patroller Map settings

5.5 | Security Center page in Genetec Patroller™ Config Tool

The Security Center page is where you configure how Genetec Patroller™ connects to Security Center, and how data is offloaded to Security Center.

NOTE: This tab is not applicable to Patroller Standalone.

5.5.1 | Security Center - Live connection tab in Genetec Patroller™ Config Tool

Configure how Genetec Patroller™ connects to Security Center.

Connect to Security Center
Turn on to connect Patroller to Security Center. This is required for all communication with the ALPR Manager role. For example, you need to be connected to Security Center to do any of the following:

- Send live updates to Patroller and connected Sharp cameras.
- Send hotlist modifications using periodic transfer.
- Send Patroller a new or modified hit accept survey.

You also need to be connected to Security Center in order to offload ALPR data wirelessly.

NOTE: After you properly configure this setting, leave it on indefinitely. Patroller will connect to Security Center whenever a wireless connection is available (e.g. you are in range of the company WiFi network), and download any modifications or updates required.

IP address
Enter the IP address of the Security Center machine hosting the ALPR Manager role.

Port
Enter the port number Patroller should use to connect to the ALPR Manager role.
NOTE: You must *also* enter the same port number for the listening port in Security CenterConfig Tool. Go to the ALPR Manager Properties page, and then under Live, enter the Listening port.

Encrypt communication channel
Turn this setting on if you want to encrypt communication between Patroller and Security Center.
NOTE: To use this feature, you must *also* encrypt communication in Security CenterConfig Tool. Go to the ALPR Manager Properties page, and then under Live, select Encrypt communication channel.

Update provider port
Enter the port that Security Center uses to send hotfixes and other updates to Patroller and connected Sharp units.
NOTE: To use this feature, you must *also* enter the same port number for the listening port in Security CenterConfig Tool. Go to the ALPR Manager Properties page, turn on Update provider, and then enter the Listening port.

Live events
Select which live events you want to send to Security Center. For example, you might choose to send only certain types of hits to use less bandwidth.

Hits
Send hits with the following status:

Enforced hits
The user acknowledged that the license plate image matches the hit information and tapped *Enforce*.

Not enforced hits
The user acknowledged that the license plate image matches the hit information but tapped *Do not enforce*.

Rejected hits
The user acknowledged that the license plate image did not match the hit information by tapping *Reject*.

Reads
Send all license plate reads.

Unit position
Send the live position of the patrol vehicle to Security Center.

Periodic transfer
Specify how often hotlist and permit list changes are downloaded to Patroller (if you have a live connection). The default transfer period is every 240 minutes.
NOTE: You can disable Periodic transfer on specific hotlists (not permit lists) in Security CenterConfig Tool on the hotlist's Advanced page. For more information, see Creating hotlists.

Use FIFO
patrol vehicles that are configured to send live reads to Security Center must sometimes buffer plate reads and hits locally due to cellular communication loss. By default, when communication is re-established and the buffered reads and hits that are sent to Security Center, they are displayed in a last-in, first-out (LIFO) order in the Monitoring task. Turning on Use FIFO changes the order to first-in, first-out (FIFO).

Parent topic: Security Center page in Genetec Patroller™ Config Tool

5.6 | Offload page in Genetec Patroller™ Config Tool

Offloading allows you to transfer reads, hits, and other Genetec Patroller™ data to Security Center. Please note that if you're running Patroller Standalone (no connection to Security Center) your data is offloaded to a local .Standalone file on the in-vehicle computer.

NOTE: Patroller Standalone is not connected to Security Center, therefore, it is indicated for some settings that they do not apply to Patroller Standalone. These settings do not appear in the Patroller Config Tool.

Offload method
Select your offload method:

None
Does not offload data.

Local file
You can configure Patroller to offload data to a file on the in-vehicle computer. You can then transfer the file to Security Center.

Offloading to Security Center
After you have offloaded the data to a local file, you can copy the data to a USB drive using the Patroller Transfer Tool. You can then use the Patroller Transfer Tool to transfer the file to the Security Center server.

Using Patroller Standalone
After you have offloaded the data to a local file, you can open the Offload.xml file in an XML editor, or you can use the Patroller Transfer Tool to save the file on a USB drive and import it into your own reporting tool.

Live transfer (not applicable to Genetec Patroller™ Standalone)
This offload method transfers all data from the Patroller vehicle to Security Center using a wireless connection. For example, you can offload your data at the end of a shift, when you're in range of the company's wireless network. You also use this option to offload data to a network drive rather than your local drive on the in-vehicle computer.
NOTE: Please note the following about Live transfer:

- This option automatically transfers the offload data into the Offload folder under the ALPR Manager root folder. For more information about the ALPR Manager root folder, see Configuring the ALPR Manager role.
- If you try to offload without being connected to Security Center, the offload is done on your local in-vehicle computer. You can then transfer the offload data to Security Center with a USB key.

Local offload drive
If using Local file as your offload method, specify where on your machine the data should be saved (e.g. C:\ if you want to offload to your C drive).

IMPORTANT: Do **not** specify the folder. Patroller creates the Offload folder on the drive you specify.

Use encryption (not applicable to Genetec Patroller™ Standalone)
Turn on to encrypt the offloaded data. You'll also need the Public key (not applicable to Patroller Standalone).

Public key (not applicable to Genetec Patroller™ Standalone)
To encrypt offload data, Patroller needs the public key from the Security Center computer. Do the following:

1. On the Security Center computer, go to C:\Program Files\Genetec Security Center <your version>, and copy the OffloadPublicKey.xml file to your clipboard.
2. On the Patroller computer, go to C:\Program Files\Genetec AutoVu X.Y\MobileClient, and paste the OffloadPublicKey.xml in the folder.
3. In the Public key field, enter the path to the public key you just pasted to the Patroller computer (C:\Program Files\Genetec AutoVu X.Y\MobileClient\OffloadPublicKey.xml).

Offload events
Select the ALPR events you want to include in offloads. For example, you might choose to offload only certain types of hits to use less bandwidth.

Hits
Offload hits with the following status:

Enforced hits
The user acknowledged that the license plate image matches the hit information and tapped *Enforce*.

Not enforced hits
The user acknowledged that the license plate image matches the hit information but tapped *Do not enforce*.

Rejected hits
The user acknowledged that the license plate image did not match the hit information by tapping *Reject*.

Reads
Offloads all license plate reads.

Unit position
Send the live position of the patrol vehicle to Security Center.

Include all images
Turn on to offload all images. If this option is turned off, only images associated with a hit are included in the offloaded data.

Incremental offload
By default, Patroller offloads data in increments, or segments. Turn this setting off if you want to offload the full data file each time.

Data segment size
Specify the maximum file size of each data segment (MB) when using Incremental offload. Once the offload file reaches the size limit, a new offload file is created and the offload process continues. The default maximum file size is 1 MB.

Force offload before exit
Turn on to make Patroller exit commands unavailable. The only way to close the application is to perform an offload.
NOTE: This option will not work if you set Offload method and Action after offload to None.

Action after offload
Select the exit procedure that occurs after you have performed an offload:

None
Return to the application.

Exit
MobileServer, MobileClient, and IO.Services are exited.

Shutdown
If the *PowerManagement.UsePowerManagement* option is selected, the OffloadExit setting is automatically set to Shutdown. This option does not work with laptops; choose Exit instead.

Delete after offload
Turn on to delete all records of user logins, images, hotlist hits, vehicles, unit states, street blocks, tire images, cameras, and attributes after a successful offload.
Browse

- Offloading reads to Security Center
- Configuring additional context cameras in Patroller

5.7 | Plugin page in Genetec Patroller™ Config Tool

The Plugin page is where you enable and configure AutoVu™ plugins. You can use the arrows to activate and deactivate a plugin. Multiple plugins can be active at the same time. Once you activate a plugin, you can configure its settings by selecting it in the Active plugins list.

NOTE: The *Street Sweeper* and *Scofflaw mdt* plugin are only used for specific deployments, and therefore may not be available on the Plugin page. For more information about the *Street Sweeper* and *Scofflaw mdt* plugins, contact your Genetec representative.

5.7.1 | Plugin - Plate copy in Genetec Patroller™ Config Tool

The Plate copy XML plugin makes it easier to verify the plates you capture in Genetec Patroller™ with other applications installed on your in-vehicle computer. With your other application open, you can simply paste the plate number in and perform your search, saving you valuable seconds every time you want to search for a plate. You can also use the XML file created on your computer in any custom application you choose.

You can customize the Plate copy plugin by modifying the following settings:

Clear XML files on startup
Turn on so that when you start Patroller, the XML data created by the Plate Copy plugin is deleted from the in-vehicle computer. When this option is off, the XML data created by the *Plate Copy* plugin is not deleted automatically on startup. You can delete the data manually if needed.

Allow Plate Copy for hits only
Turn on to have the Plate Copy feature work for hits only. When this option is turned off, the Plate Copy feature works for reads and hits.

Create a different XML file each time
Turn on to creates a different Plate Copy XML file with each use. For more information on how this affects the filename, see Name of the created XML file. When this option is turned off, the *Plate Copy* XML file is overwritten with each use.
IMPORTANT: Third-party applications that use the *Plate Copy* XML file must turn this setting on.

Name of the created XML file
Type the filename you want for the *Plate Copy* XML file.

Where to save the created XML file
Enter the path on the in-vehicle computer where you want the *Plate Copy* XML files to be saved (for example, you could save the files to C:\PlateCopyXMLfiles). The plugin will create the folder for you the first time you tap a plate image in Patroller.

Name of the XML template file to use
Type the filename of the XML template you want to use for the *Plate Copy* XML file

Copy plate number to Windows clipboard
Turn on to automatically copy the plate number to the Windows clipboard when you tap the plate image in Patroller. This allows you to quickly paste the plate number to the third-party application (use Ctrl+V).

Minimize Patroller window
Turn on to minimize Patroller when you when you tap the plate image in the main window.
NOTE: When this option is turned off Patroller is not minimized but the third-party application is displayed Patroller on top of the Patroller window if the Maximize external application window and Restore external application window settings are turned ON.

Search external application by process name
When turned on, Patroller searches for the name of the third-party application process as it appears in Windows Task Manager (for example, *Notepad*). When turned off, Patroller searches for the name of the minimized window (for example, Test.txt - Notepad).

External application name
Enter the name of the third-party application to display when you tap the plate image in Patroller. The name you enter here depends on whether the Search external application by process name option is turned on or off. For example, if you want to open Windows Notepad, type one of the following in this field:

- If Search external application by process name is turned ON, type Notepad, the name of the notepad process as it appears in Windows Task Manager (without the .exe).
- If Search external application by process name is turned OFF, type the full name as shown in the title bar of the application's window. For example, the name of an unsaved minimized Notepad window is called Untitled - Notepad.

IMPORTANT: Only applications that are already running can be displayed. This feature cannot start an application for you.

Restore external application window
When this option is on, the third-party application is restored to its former size when you tap the plate image in Patroller. When this option is turned off, the third-party application is not displayed unless you also turn on the option Maximize external application window.

Maximize external application window
Turn on to maximizes the third-party application when you tap the plate image in Patroller. When turned off the third-party option is not displayed unless you also turn on the Restore external application window option.

Display all external application windows
Turn on to display all the windows of the third-party application when you tap the plate image in Patroller. When you turn this option off, the first thrid-party window that is listed in Windows Task Manager will be displayed when you tap the plate image in Patroller.
Parent topic: Plugin page in Genetec Patroller™ Config Tool

5.7.2 | Plugin - Hit export in Genetec Patroller™ Config Tool

The Hit export plugin creates an XML file that third-party ticketing systems can use to help automate the issuing of parking citations. When you enforce a permit hit in Genetec Patroller™, an XML file with the permit hit data is saved to the in-vehicle computer. Third-party ticketing systems can then use this XML file to pre-populate the required fields in their parking ticket citations (license plate number, street location, time/date, and so on).

You can customize the Hit export plugin by modifying the following settings:

Clear exported XML files on startup
Turn on so that when you start Patroller, the XML data created by the Hit export plugin is deleted from the in-vehicle computer. When this option is turned off, the XML data created by the *Hit export* plugin is not deleted automatically on startup. You can delete the data manually if needed.

Create a different XML file each time
Turn on to create a different XML file with each use. For more information on how this affects the filename, see the Name of the created XML file option. When this option is turned off, the same XML is overwritten with each use.
IMPORTANT: Third-party applications that use the XML file must turn this setting on.

Name of the created XML file
Type the filename you want for the XML file. This option only works when the Create a different XML file each time option is turned OFF.

Where to save the created XML file
Enter the path on the in-vehicle computer where you want the Hit export XML files to be saved (for example, you could save the files to C:\XMLHitExportfiles). The plugin will create the folder for you the first time this feature is used.

Name of the XML template file to use
Type the filename of the XML template you want to use for the XML file.

Parent topic: Plugin page in Genetec Patroller™ Config Tool

5.7.3 | Plugin - Street Sweeper in Genetec Patroller™ Config Tool

This section lists the options in the Street Sweeper tab of the Plugin page.

AddTimeStampOverlay
Turn Time Stamp overlay ON or OFF.

CameraLogin
Enter the camera login name.

CameraPassword
Enter the camera password.

CameraServerName
Enter the IP address of the camera.

ImageParameterString
Enter the desired resolution and rotation of the time stamp.

OverviewImageDelay
Enter the time delay between the plate read and the overview image.

TimeStampOverlayColor
Select a color for the overlay.

TimeStampOverlayFormat
Format for the time stamp.

TimeStampOverlayPosition
Select the position of the overlay in the image.

TimeStampOverlaySize
Use the slider to increase or decrease the size of the overlay.

Parent topic: Plugin page in Genetec Patroller™ Config Tool

5.7.4 | Plugin - Scofflaw mdt in Genetec Patroller™ Config Tool

This section lists the options in the Scofflaw mdt tab of the Plugins page.

Plate type

Displays the plate type with one letter. This is only for Philadelphia specifications.

Queries path

Displays the path on the local machine for storing text files with accepted hits.

Parent topic: Plugin page in Genetec Patroller™ Config Tool

5.8 | User interface page in Genetec Patroller™ Config Tool

The User interface page allows you to configure options related to how the Genetec Patroller™ user interface looks and behaves, such as whether to highlight license plates in context images, and whether to enable printing of data, etc.

5.8.1 | User interface – General tab in Genetec Patroller™ Config Tool

Configure the settings related to how Genetec Patroller™ is displayed.

System unit

Displays speed and distance in metric or U.S. system (for example, km/h or mph).

Default plate state

Displays the default state or province when you enter a plate manually.

NOTE: You should enter the state's abbreviation (for example, NY, QC, and so on), not the full name.

Enable virtual keyboard

Turn on for Patroller to display an onscreen keyboard when you need to enter text. The onscreen keyboard appears when you tap or click in a text field.

Circle plate

Turn on for Patroller to highlight license plates in the context images.

Show overview label

Turn on to display the overview label if the overview image exists.

Enable reviews

Turn on to allow users to review reads or hits in the Patroller user interface.

Show plate lists on startup

Turn on to automatically display the list of downloaded files (hotlists and permit lists) when Patroller starts up.

Enable manual capture

Turn on to enable Manual capture in Patroller. This allows users to manually enter a license plate, and select the camera that captured it.

Parent topic: User interface page in Genetec Patroller™ Config Tool

5.8.2 | User interface – System tab in Genetec Patroller™ Config Tool

Configure the settings related to how Genetec Patroller™ behaves.

Enable minimize button

Turn on to allow the Patroller window to be minimized.

Enable system tray menu

Turn on to enable the Patroller menu located in the Windows system tray (right-click the Patroller icon in the system tray for more options).

Start application minimized

Turn on to start Patroller with the window minimized. This option is not recommended if you log with a username and/or password.

Silent mode

Turn on to enable silent mode. In this mode, the Patroller window starts and stays minimized until a hit is generated. After acknowledging the hit, Patroller returns to a minimized state.

NOTE: To receive audible notification for hotlist hits when the system is in silent mode, you must turn on the following Security Center features in the Properties tab of the ALPR task:

- Play sound on hit
- Play sounds even when minimized

Enable main buttons

Turn on to enable the *Disabled, Hit, Zone, ShowDue, Manual Capture*, and *Cameras* buttons.

NOTE: For the Street Sweeper plugin, you need to disable this setting.

Show taskbar when fullscreen

Turn on to show the Windows taskbar when Patroller is full screen.

Enable printing

Turn on to enable printing of read/hit information from the Patroller window.

Show username in tray

Turn on to show the Patroller user's Security Center username in the notification bar.

NOTE: If you're using Patroller for parking enforcement, you can turn this option off to make room for long enforcement rule names.

Show Genetec Patroller™ name in tray
Turn on to show the Patroller's unit name in the notification bar.
NOTE: If you're using Patroller for parking enforcement, you can turn this option off to make room for long enforcement rule names.
Parent topic: User interface page in Genetec Patroller™ Config Tool

5.9 | Advanced page in Genetec Patroller™ Config Tool

The Advanced page allows you to configure advanced Genetec Patroller™ options. Advanced settings in Genetec Patroller™ Config Tool are used mostly by Genetec for diagnostic, debugging, and testing purposes. Most AutoVu™ deployments do not require advanced options to be modified.

IMPORTANT: The only settings that you should modify are the logging settings under the *Traces* section. For all the other advanced settings, contact your Genetec representative before you attempt to modify them.

6 | Patroller SimpleHost

6.1 | About Patroller Simple Host

Simple Host is a WCF service in Genetec Patroller™ that allows an external third party application to retrieve hits and reads, in an XML format, from the Patroller. It also allows to push *New Wanted* entries to the Patroller.

What is the AutoVu Simple Host service?

Communication to the service is done through an Ethernet connection, and the service connection is configured using Microsoft Visual Studio.

About the contract

The Simple Host service uses .NET WCF to offer SOAP based access to the Patroller database. A contract is defined to identify the data access available to client applications.

Example:

Code

```
[ServiceContract(Name="SimpleHost", Namespace="http://autovu.com")]
public interface ISimpleHostContract
{
  [OperationContract]
  string GetLatestXGuidAndPlateNumber(int lastX);
  [OperationContract]
  string GetHitData(Guid hitGuid);
  [OperationContract]
  void AddNewWanted(string plateNumber, string plateState,
                    int expirationDuration);
  [OperationContract]
  List <Guid> GetReadIds(DateTime from, DateTime to);
  [OperationContract]
  string GetReadData(Guid readGuid);
  [OperationContract]
  void RaiseHit(Guid readGuid, string hitPlateNumber,
              string hitPlateState,
              string category, HitColorEnum hitColor,
              string attributeKeyValuePairs);
}
```

6.2 | Enabling the Simple Host service

To use the Simple Host service in Genetec Patroller™, you must enable the feature in the Genetec Patroller™ Config Tool.

What you should know

- For security reasons, the Simple Host service is disabled by default.
- If Simple Host is already integrated into the system, you might need to re-enable it following a Patroller upgrade.

Procedure

1. On the in-vehicle computer, log in to Genetec Patroller™ Config Tool.
2. Select the Advanced configuration page.
3. Under Simple Host, turn on Use service.
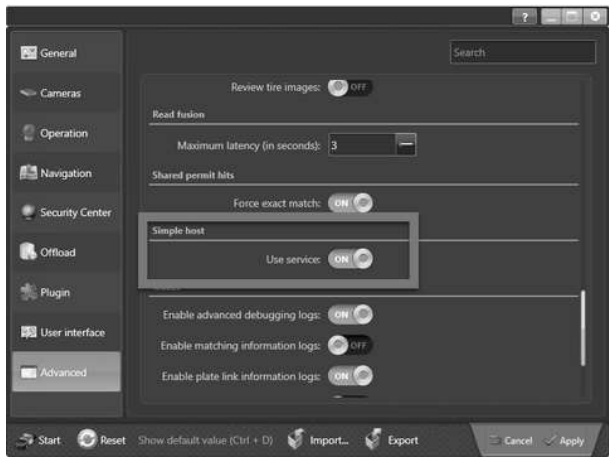
4. Click Apply.

Results

The Simple Host service is now enabled for the patrol vehicle and will be available when Patroller is running.

6.3 | Granting administrator privileges to connect to the Simple Host service

Before you can connect your application to the Simple Host service, you'll need to explicitly grant the user administrator privileges to the Simple Host ports and addresses using Netsh.exe tool.

Procedure

1. Make sure that the user has an administrator account on the computer.
2. Right-click the Command prompt, and then click Run as administrator.
3. At the command prompt, type:

   netsh http add urlacl url=http://+:8001/SimpleHost/ user=<domain>\ <user>

   Replacing <domain> and <user> with the computer domain and user name respectively.

   NOTE: To remove this permission, use the following command:

   netsh http delete urlacl url=http://+:8001/SimpleHost/

4. Restart Genetec Patroller™

Results

You are now ready to connect to the Simple Host service.

6.4 | Connecting to Patroller Simple Host service

To get or push read and hit data through the Simple Host service, you need to connect to a WCF service using your Visual Studio project.

Before you begin

- Make sure the user can listen to the Simple Host port and address.
- Open Genetec Patroller™ Config Tool to activate the service.

What you should know

In this procedure, you will use Microsoft Visual Studio 2013 to automatically generate code to connect to a WCF service. There is no need to use an existing AutoVu DLL.

Procedure

1. Open Visual Studio.
2. In the Visual Studio Solution Explorer, right-click on the project that references the Simple Host service, then select Add Service Reference.
3. In the Address field, enter the URL of the Simple Host service. Click Go.
   If the Simple Host service is running on the same computer, the address is:

   http://localhost:8001/SimpleHost

   If the Simple Host service is running, the Simple Host web service will appear in the Services box. You can expand it to see the functions it contains.
4. Enter a namespace for the auto-generated code that is more descriptive than its default *ServiceReference1*, then click OK.
   In the following example, we use the name AutoVu.SimpleHost.Service.
   New auto-generated code will be added to your project. The following example code shows how to use the service from within a class of your application:
   Code

```
using System;
using System.Collections.Generic;
```

```
using System.ComponentModel;
using System.Data;
using System.Drawing;
using System.Linq;
using System.Text;
using System.Windows.Forms;
using System.Xml;
using System.IO;
namespace Test2020
{
  public partial class Form1 : Form
  {
      AutoVu.SimpleHost.Service.SimpleHostClient _simpleHost;
      public Form1()
      {
          InitializeComponent();
      }
      private void buttonGetHit_Click(object sender, EventArgs e)
      {
          string lXml;
          try
          {
             lXml = _simpleHost.GetHitData
               (new Guid("48E6B5C7-0347-470F-9A95-9650AA7EB568"));
          }
          catch (Exception e1)
          {
             Console.WriteLine(e1.Message);
             return;
          }
      }
      private void buttonInit_Click(object sender, EventArgs e)
      {
          _simpleHost =
            new AutoVu.SimpleHost.Service.SimpleHostClient
                           ("BasicHttpBinding_SimpleHost");
        // the string passed to the constructor is the name of
        // the configuration that was generated in the
        // App.config file.
      }
  }
}
```

5. In your project or the main project of the application, find the App.config file.
   NOTE: The App.config file must be the one in the Startup project of the solution, otherwise the configuration will not apply.
   The autogenerating code process should have added a system.serviceModel tag to the content of the file:
   Code

```xml
<?xml version="1.0" encoding="UTF-8" ?>
<configuration>
    <system.serviceModel>
        <bindings>
            <basicHttpBinding>
                <binding name="BasicHttpBinding_SimpleHost"
                       closeTimeout="00:01:00"
                       openTimeout="00:01:00"
                       receiveTimeout="00:10:00"
                       sendTimeout="00:01:00"
                       allowCookies="false"
                       bypassProxyOnLocal="false"
                       hostNameComparisonMode="StrongWildcard"
                       maxBufferSize="65536"
                       maxBufferPoolSize="524288"
                       maxReceivedMessageSize="65536"
                       messageEncoding="Text"
                       textEncoding="UTF-8"
                       transfer Mode="Buffered"
                       useDefaultWebProxy="true">
                    <readerQuotas maxDepth="32"
                               maxStringContentLength="8192"
                               maxArrayLength="16384"
                               maxBytesPerRead="4096"
                               maxNameTableCharCount="16384" />
                    <security mode="None">
                        <transport clientCredentialType="None"
                                   proxyCredentialType="None"
                                   realm="" />
                        <message clientCredentialType="UserName"
                                 algorithmSuite="Default" />
                    </security>
                </binding>
            </basicHttpBinding>
        </bindings>
        <client>
            <endpoint address="http://localhost:8001/SimpleHost/"
                   binding="basicHttpBinding"
                   bindingConfiguration="BasicHttpBinding_SimpleHost"
                   contract="AutoVu.SimpleHost.Service.SimpleHost"
                   name="BasicHttpBinding_SimpleHost" />
        </client>
```

```
                </system.serviceModel>
            </configuration>
```


6. Replace the *readerQuotas* tag with the following, and then save the project file.
   The default configuration does not allow a large amount of data to be transferred in one message, which we need when we transfer the images.
   Code

```
<readerQuotas maxDepth="2147483647"
              maxStringContentLength="2147483647"
              maxArrayLength="2147483647"
              maxBytesPerRead="2147483647"
              maxNameTableCharCount="2147483647" />
```


7. Compile and run the project

Results

The string received from the Simple Host is XML compliant and can be analysed using the .NET XmlDocument class. Also the images need to be re-encoded as a byte[] to create a bitmap object.
See the following code:
Code

```
private void ButtonGetHit_Click(object sender, EventArgs e)
{
    string lXml;
    XmlDocument lDoc = new XmlDocument();
    lXml = _simpleHost.GetHitData
           (new Guid("4E6B5C7-0347-470F-9A95-9650AA7EB568"));
    lDoc.LoadXml(lXml);
    XmlNodeList listXmlImages =
           lDoc.SelectNodes(string.Format("{0}/{1}/{2}/{3}",
                   "AutoVuReturn","Hit", "Vehicle","Image"));
    foreach (XmlNode node in listXmlImages)
    {
        XmlNode purposeNode = node.SelectSingleNode("Purpose");
        XmlNode dataNode = node.SelectSingleNode("Data");
        byte[] imageData = Covert.FromBase64String(dataNode.InnerXml);
        MemoryStream lMemoryStream = new MemoryStream(imageData);
        Bitmap image = new Bitmap(lMemoryStream);
        switch (purposeNode.InnerXml)
        {
            case "LPR":
            image.Save("Image_LPR.jpg");
            break;
            case "Context":
            image.Save("Image_Context.jpg");
            break;
        }
        image.Dispose();
    }
}
```


6.5 | Getting data from Patroller Simple Host service

You can retrieve read and hit data from the Genetec Patroller™ Simple Host service using predefined functions. You can also push New Wanted entries and raise hits.

Six functions defined in the Simple Host contract are available to get data from, or push data to, the Patroller:

- GetReadData
- GetReadIds
- GetLatestXGuidAndPlateNumber
- GetHitData
- AddNewWanted
- RaiseHit

The definition of each XML tags returned by the function calls is explained in XML tag descriptions for Patroller Simple Host.

Simple Host functions description

GetReadData
The method GetReadData will return all relevant information required about a plate read. The following is an example of the XML returned by a call to this function.

GetReadIds
The method GetReadIds will return the unique identifiers (GUID) of all reads between the 'from' and 'to' parameters.

Code

```
<AutoVuReturn>
```

```
        <Vehicle>
            <PlateNumber>ABC123</PlateNumber>
            <TimeStamp>12/3/2013 8:15:08 AM</TimeStamp>
            <UnitName>Unit 1</UnitName>
            <UserName>Default user</UserName>
            <Attributes
                State="QC" CameraOrientation="3" ReadType="1" />
        </Vehicle>
</AutoVuReturn>
```

GetLatestXGuidAndPlateNumber

The method GetLatestXGuidAndPlateNumber will return an XML string listing the last number of hits that were raised. The following is an example of the XML returned by a call to this function.

Code

```
<AutoVuReturn>
    <Hit>
        <HitID>B117F607-8367-40BD-BB18-99230A4F0569</HitID>
        <Vehicle>
            <PlateNumber>YUI765</PlateNumber>
        </Vehicle>
    </Hit>
    <Hit>
        <HitID>BB5B4B67-5080-4E0A-AB0B-0159CF646459</HitID>
        <Vehicle>
            <PlateNumber>420RFA</PlateNumber>
        </Vehicle>
    </Hit>
    <Hit>
        <HitID>E86DFD41-BA15-446A-B902-83A51EF872E6</HitID>
        <Vehicle>
            <PlateNumber>9476073</PlateNumber>
        </Vehicle>
    </Hit>
    <Hit>
        <HitID>FE8B1F23-B8D6-4025-A9CE-6030F34FE097</HitID>
        <Vehicle>
            <PlateNumber>6549330</PlateNumber>
        </Vehicle>
    </Hit>
</AutoVuReturn>
```

GetHitData

The function GetHitData returns all the data related to a hit, including the 64-bit encoded images that are associated to the hit. The function needs the GUID of the hit to retrieve the hit data. The GUID is retrieved using the function GetLatestXGuidAndPlateNumber. The following examples show the XML returned by this function.

XML example for a hotlist hit

Code

```
<AutoVuReturn>
    <Hit>
        <HitID>7A17CA80-79CC-46FF-8480-AEE4C71E0F2F</HitID>
        <HitCategory>Scofflaw</HitCategory>
        <HotlistPlateState>QC</HotlistPlateState>
        <Vehicle>
            <PlateNumber>QAZWSX</PlateNumber>
            <TimeStamp>4/4/2020 3:13:28 PM</TimeStamp>
            <UnitName>Unit 1</UnitName>
            <UserName>Default user</UserName>
            <Location>
                <Latitude>-73.6065188673537</Latitude>
                <Longitude>45.5278538806699</Longitude>
                <Heading>18.3796565908587</Heading>
                <Address>Av Viaduc Rosemont-Van Horne</Address>
                <ToStreet>Rue St-Urbain</ToStreet>
                <FromStreet>Rue Viaduc Rosemont-Van Horne</FromStreet>
            </Location>
            <Image>
                <Purpose>LPR</Purpose>
                <CameraName>Left LPR</CameraName>
                <Data>*</Data>
            </Image>
            <Image>
                <Purpose>Context</Purpose>
                <CameraName>Left context</CameraName>
                <Data>*</Data>
            </Image>
            <Attributes ReadType="1" />
        </Vehicle>
        <Attributes HitType="Hotlist" />
    </Hit>
</AutoVuReturn>
```

XML example for an overtime hit.

An overtime hit contains a second vehicle since we need two ALPR reads to initiate an overtime hit.

Code

```xml
<AutoVuReturn>
    <Hit>
        <HitID>E20AB636-C516-4CAD-BD91-72FFF07582B4</HitID>
        <Vehicle>
            <PlateNumber>123456</PlateNumber>
            <TimeStamp>4/4/2020 3:07:52 PM</TimeStamp>
            <UnitName>Unit 1</UnitName>
            <UserName>Default user</UserName>
            <Location>
                <Latitude>-73.6189690674709</Latitude>
                <Longitude>45.5159273241462</Longitude>
                <Heading>57.7012353085265</Heading>
                <Address>1726, Av Van Horne</Address>
                <ToStreet>Av Hartland</ToStreet>
                <FromStreet>Av Antonine Maillet</FromStreet>
            </Location>
            <Image>
                <Purpose>LPR</Purpose>
                <CameraName>Left LPR</CameraName>
                <Data>*</Data>
            </Image>
            <Image>
                <Purpose>Context</Purpose>
                <CameraName>Left context</CameraName>
                <Data>*</Data>
            </Image>
            <Attributes ReadType="5"
                        ZoneName="Zone A BF always 2 mins"
                        ZoneColor="-32640" NumberOfViolation="1" />
        </Vehicle>
        <Vehicle2>
            <PlateNumber>123456</PlateNumber>
            <TimeStamp>4/4/2020 3:03:08 PM</TimeStamp>
            <UnitName>Unit 1</UnitName>
            <UserName>Default user</UserName>
            <Location>
                <Latitude>-73.6189097563445</Latitude>
                <Longitude>45.5159931789884</Longitude>
                <Heading>57.7012655931207</Heading>
                <Address>1722, Av Van Horne</Address>
                <ToStreet>Av Hartland</ToStreet>
                <FromStreet>Av Antonine Maillet</FromStreet>
            </Location>
            <Image>
                <Purpose>LPR</Purpose>
                <CameraName>Left LPR</CameraName>
                <Data>*</Data>
            </Image>
            <Image>
                <Purpose>Context</Purpose>
                <CameraName>Left context</CameraName>
                <Data>*</Data>
            </Image>
            <Attributes ReadType="5"
                        ZoneName="Zone A BF always 2 mins"
                        ZoneColor="-32640" />
        </Vehicle2>
        <Attributes HitType="Overtime"
                VehicleOvertimeGUID=
                    "56cef816-2025-4053-a0d1-341f8346b445" />
    </Hit>
</AutoVuReturn>
```

XML example for a permit hit

Code

```xml
<AutoVuReturn>
    <Hit>
        <HitID>5F20ACE3-192A-4D3B-BD82-F89B1A995E2A</HitID>
        <Vehicle>
            <PlateNumber>JHJ</PlateNumber>
            <TimeStamp>4/4/2020 2:18:04 PM</TimeStamp>
            <UnitName>Unit 1</UnitName>
            <UserName>Default user</UserName>
            <Location>
                <Latitude>-87.6554201136705</Latitude>
                <Longitude>41.7224790875399</Longitude>
                <Heading>-88.0852803934929</Heading>
                <Address>9438, S Throop St</Address>
                <ToStreet>W 95th St</ToStreet>
```

```
            <FromStreet>W 94th St</FromStreet>
        </Location>
        <Image>
            <Purpose>LPR</Purpose>
            <CameraName>Left LPR</CameraName>
            <Data>*</Data>
        </Image>
        <Image>
            <Purpose>Context</Purpose>
            <CameraName>Left context</CameraName>
            <Data>*</Data>
        </Image>
        <Attributes ZoneColor="0" ReadType="3"
                    ZoneName="Zone1" PolygonName="Zone1" />
    </Vehicle>
    <Attributes HitType="Permit" />
  </Hit>
</AutoVuReturn>
```

AddNewWanted

The AddNewWanted function allows to push a New Wanted entry to the patrol vehicle. The plate number must not be empty and have less than 10 characters. The expiration duration must be greater than zero.

The following example would add to Patroller a New Wanted plate number ABC123 from the Quebec province, valid for 10 days.

Code

```
service.AddNewWanted("ABC123", "QC", 10);
```

RaiseHit

This function is used to push a Hit to the patrol vehicle. This is used when the logic that determines if a Read event should generate a Hit is executed by an application outside of Patroller.

The function requires the following input parameters:

readGuid

GUID corresponding to a Read guid already existing in Patroller. This value can be obtained by using the GetReadIDs and GetReadData Simple Host functions.

hitPlateNumber

Plate number that has triggered the hit. For example, if the external application supports fuzzy matching, the Read can be ABC123 and the *hitPlateNumber* can be AB8123.

hitPlateState

State, country or province associated to the hit. This parameter can be empty.

category

Hit category determined by the third party application doing the matching.

hitColor

The hit color. The value must be among the predefined colors of the Simple Host interface.

attributeKeyValuePairs

This parameter allows to associate different attributes, with their value, to a Hit. These attributes and values (key value pairs) must be presented in the JSON (JavaScript Object Notation) format.

The following example shows different possible attributes with values in the JSON format:

Code

```
{"Model":"Honda",
 "Year":"2020",
 "Name":"Doe",
 "Surname":"John",
 "License No.":"123456789"}
```

6.6 | XML tag descriptions for Patroller Simple Host

XML tags are defined to exchange different type of information with the Genetec Patroller™ Simple Host service.

The following table describes the Simple Host tags:

Tag Name	Description
Address	Address where the vehicle read occurred. This field is calculated using the GPS coordinates. The application will not be able to calculate an address for all GPS coordinates.
AddNewWanted	Adds a license plate to Genetec Patroller's local hotlist file on the in-vehicle computer.
Attributes	List of attributes of a vehicle read (if within Vehicle or Vehicle2 tag) or a hit (if within a Hit tag).
AutoVuReturn	Root tag used by the Simple Host Service.

Tag Name	Description
CameraName	Name of the camera that took the image.
Data	64-bit encoded image data. Approximately 2 KB for a ALPR image and 50 KB for a context image.
FromStreet	Last perpendicular street. Useful to find the block where the address is located.
Heading	Angle. Direction of the unit taking the reads.
Hit	Contains all the information about a hit.
HitID	Identifier of the hit.
HitType	Type of the hit. Overtime, Permit or Hotlist.
Image	Contains the following information about the image <Purpose>, <CameraName> and <Data>.
Latitude	GPS coordinate of the vehicle read.
Location	Contains information about the vehicle read location and address.
Longitude	GPS coordinate of the vehicle read.
NumberOfViolations	(Overtime hits only) A zone can give more than one hit to a parked car. This field contains the number of hits a vehicle can incur in the current zone.
PlateNumber	Plate number of the vehicle read.
Purpose	Purpose of the image. Can have the following values: ALPR, Context, Tire, and Overview.
ReadType	The type of the read based on a set of binary flags since more than one hit type can be activated at a time. Standard (Hotlist) = 1, Permit=2, Overtime=4. Example: Standard + Overtime = 5.
TimeStamp	Date and time at which the read was done.
ToStreet	Next perpendicular street. Useful to find the block where the address is located.
UnitName	Name/identifier of the vehicle running the application.
UserName	Name/identifier of the user connected to the application.
Vehicle	(Overtime enforcement only) Contains all the information about the second plate read in an overtime enforcement scenario. NOTE: An overtime hit is the result of two plate reads, the second read triggering the hit.
Vehicle2	(Overtime enforcement only) References all the information about the first plate read in an overtime enforcement scenario. The Vehicle tag contains all the information about the second vehicle read (which triggers the hit).
VehicletagOvertimeGUID	(Internal use) GUID of the second vehicle.
ZoneColor	Color of the Zone. Used in the map display in BackOffice and Patroller.
ZoneName	Name of the zone that was activated at the time of the vehicle read.

7 | Troubleshooting Patroller

7.1 | Troubleshooting: Maps not displayed in Patroller

If maps are not displayed in Genetec Patroller™, you can troubleshoot the issue.

Procedure

1. Verify that BeNomad maps are installed. For more information, see Installing BeNomad files on the in-vehicle computer.
2. Verify that maps are enabled in Patroller. For more information, see Enabling Patroller Map settings.

7.2 | Troubleshooting: Red Security Center connection icon in Patroller

For patrol vehicles equipped with the GlobalSat BU-353S4 USB GPS receiver, if the Security Center connection status icon is red in Genetec Patroller™, you can troubleshoot the issue.

What you should know

The GlobalSat BU-353S4 receiver connects to the in-vehicle computer. Alternatively, SharpZ3 systems might include the Tallysman TW2412 GPS/GLONASS antenna which connects to the SharpZ3 navigation expansion module.

Procedure

1. Verify that GPS settings have been enabled. For more information, see Enabling Patroller GPS settings.
2. Verify the GPS status in Patroller as follows:
    a. In Patroller, click Status.
    b. Go to the Diagnostics page.

The Diagnostics page indicates if the GPS is active, and the number of satellites it can detect. The minimum number of satellites is four. Anything lower than four can indicate GPS signal coverage or antenna issues.

3. Disconnect and connect the USB GPS receiver from the in-vehicle computer.
4. Try connecting to a different USB port on the in-vehicle computer.
5. Verify that the USB GPS receiver is using the most recent driver. For more information, see Installing the GlobalSat GPS driver.
6. Verify that the USB GPS antenna is detected in the Device Manager, and take note of its COM port. Then verify that the same port is displayed in Navigation > Equipment > Advanced > Port.

7.3 | Troubleshooting: Cannot send reads from Patroller to Security Center

If you cannot send reads from Genetec Patroller™ to Security Center, you can troubleshoot the issue.

Procedure

1. Verify that Patroller is connected to Security Center. For more information, see Sending live events from Patroller to Security Center.
2. Verify that your internet connection is stable.
3. Verify the state of the local SQL agent.
4. If encryption is used, verify that it is on in both Patroller and Security Center.
5. Verify that there is enough space on the Security Center server.

7.4 | Troubleshooting: Cannot review acknowledged hits in Patroller

If you cannot review acknowledged hits, you can troubleshoot the issue.

What you should know

CAUSE: The Enable reviews setting may be turned off (it is on by default).

Procedure

1. Open Genetec Patroller™ Config Tool.
2. Select User interface.
3. On the General tab, turn on the Enable reviews setting.

7.5 | Troubleshooting: Wheel imaging not working in Patroller

If you are not receiving any wheel images, you can troubleshoot the issue.

What you should know

CAUSE: The required ports might not be open.

Procedure

Open ports 4545 and 4546 on the in-vehicle computer to ensure that all AutoVu™ components can communicate with each other.
For information about opening ports, see your Windows Help.