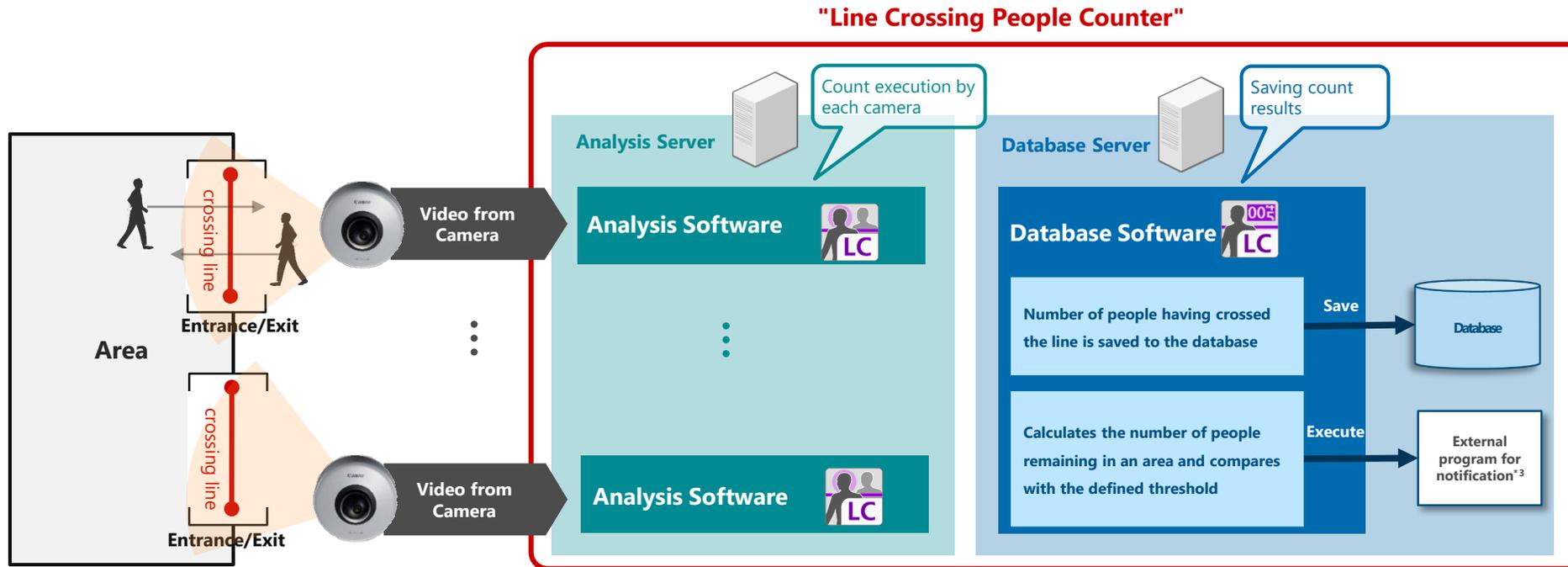


Configuration of Line Crossing People Counter Version 1.0

■ The Line Crossing People Counter consists of the Analysis Software and the Database Software.

- The Analysis Software counts the number of people having crossed the line from the video of one camera. The Database Software stores multiple Analysis Software count results in a database.
- Since the database is updated^{*1} in real time by the Database Software, data of the number of people having crossed the line for each camera (past^{*2} to the latest) is constructed.
- The Database Software calculates the number of people remaining in the area and executes an external program^{*3} to notify when the number of people reaches or surpasses the set number or falls below.



* In this document, the computer on which the Analysis Software is installed is called the "Analysis Server", and the computer on which the Database Software is installed is called the "Database Server".

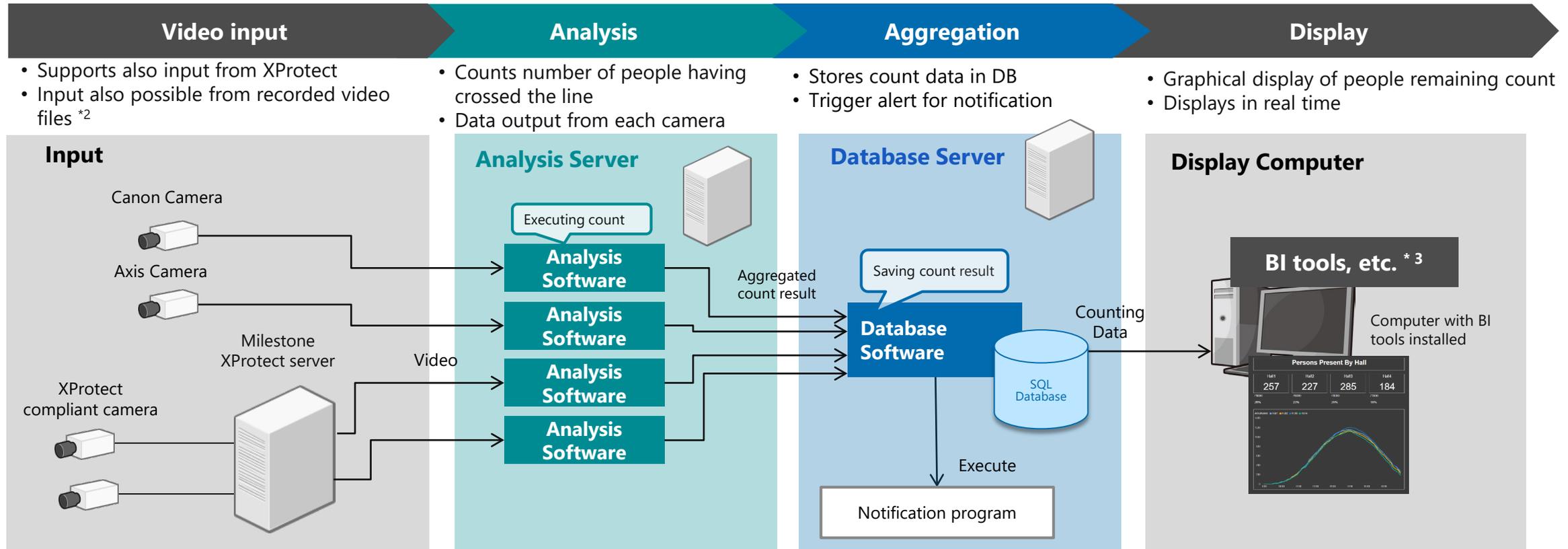
*1 Updates the database when the Analysis Software is analyzing and the Database Software is running.

*2 The data in the database can be stored for a maximum of one year.

*3 A batch file to alert the Alarm Manager of XProtect is included with this product for reference.

System Configuration (Crowd People Counter + BI Tools)

- The product consists of the Analytics Software running on the Analysis Server and the Database Software running on the Database Server.
- Input is supported by Canon camera, Axis camera, and live video from XProtect.
- Up to four cameras can be analyzed simultaneously per Analysis Server *1.



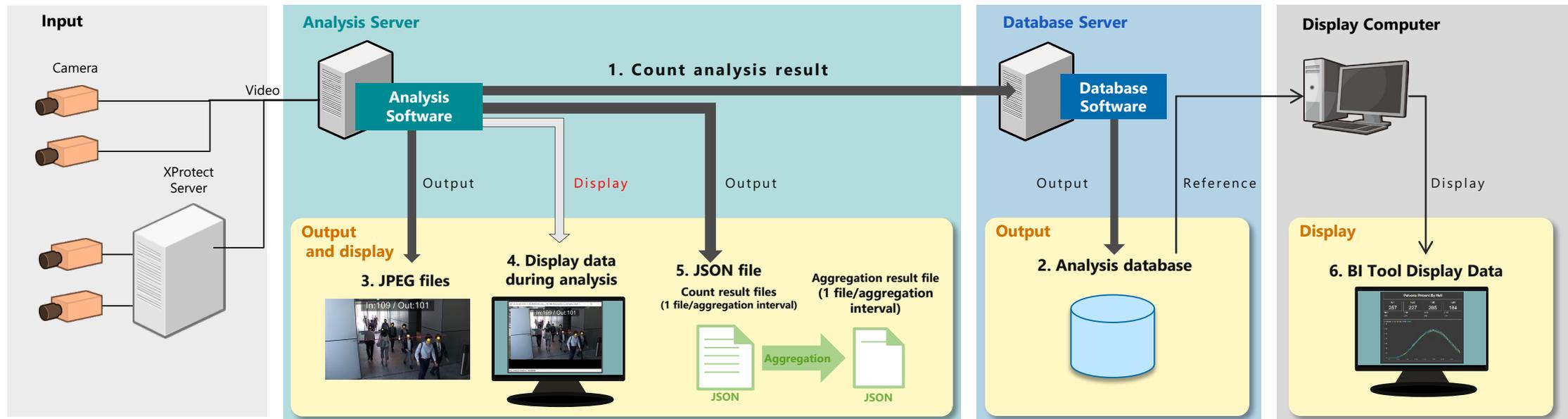
*1 Able to analyze one camera video per license. If wanting to analyze more than one camera video, a license for each additional camera video is necessary.

*2 Input from recorded video file is only supported for use with the product trial period (60 days)/NFR license.

*3 The BI tools must be provided by the customer. Templates for Microsoft Power BI are provided free of charge with this product.

Display Results and Output Data

■ Types of analysis result data generated by this software.



1. Count analysis result

- Count result is sent by WebAPI per aggregation interval from the Analysis Server to the Database Server.

2. Analysis database

- Analysis results are accumulated during analysis. Able to set a retention period for the data, which can be up to one year.

3. JPEG files

- Approximately 5 JPEG files per second are outputted during the analysis in the Analysis Server*1.

4. Display data during analysis

- A preview of count result is displayed on the Analysis Server.

5. JSON Files (count result files/aggregation result file)

- Count result files and aggregation result file are outputted in the Analysis Server during analysis*2
- A line is written about every 0.2 seconds for each count result, such as the number of people counted in the count result files during analysis. If the [Delete files used for aggregation] check box is selected in the Analysis Software, data is automatically deleted after aggregation result file is outputted.
- From the data in count result files for each aggregation interval set by the Analysis Software, the number of people who passed in the "In" direction and in the "Out" direction aggregated respectively and outputted in a single line as a JSON file. If the [Delete aggregation result file after sending] check box in the Analysis Software is selected, the software automatically deletes analysis result after sending it to the Database Server.

6. BI Tool Display Data

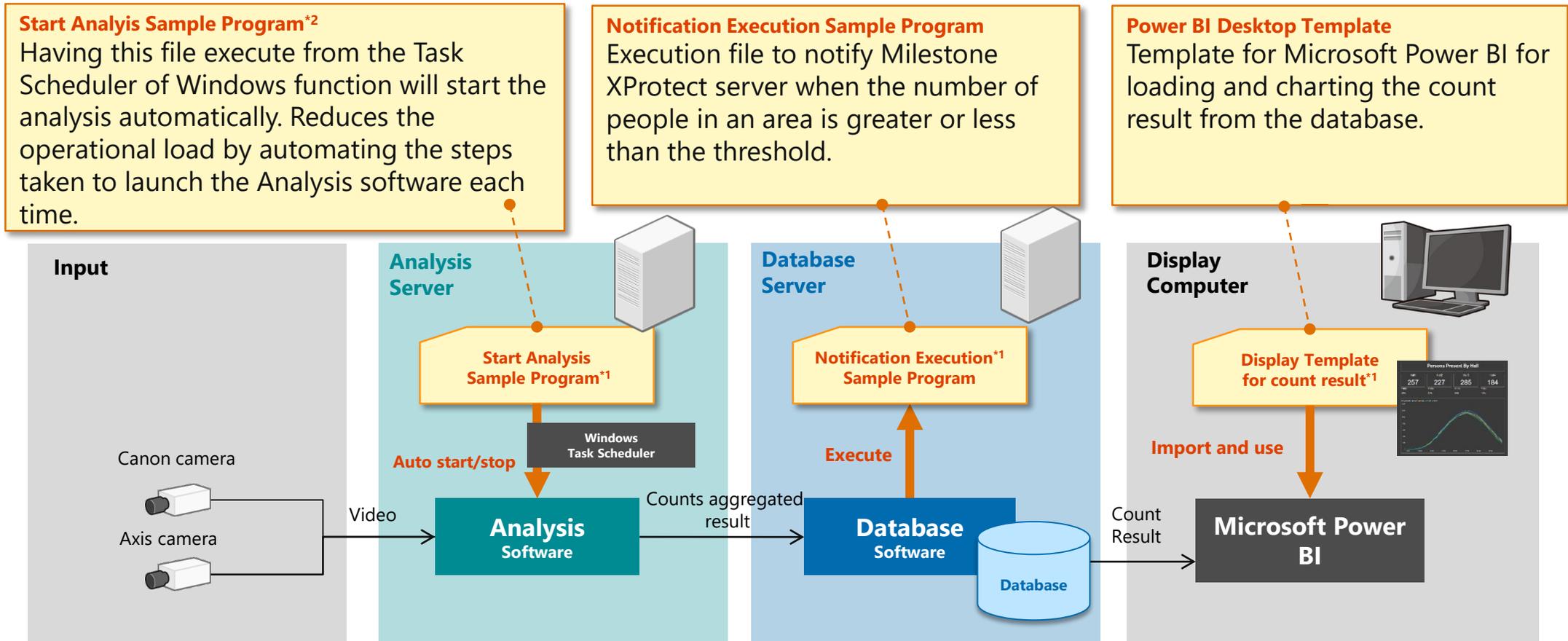
- BI tools, such as the Power BI, acquire values from the database and display them as a graph.

*1 Setting must be made for outputting JPEG files in advance.

*2 Setting must be made for outputting aggregated result in advance.

Sample Files for the "Number of People Remaining Count Solution" tentative

- Three sample files*¹ and their explanatory documents are included with the product so that the product can be used as the "Number of People Remaining Count Solution" tentative. The Notification Execution sample program and Power BI Desktop templates are described in the following sections. For details, refer to the documentation provided with the product.



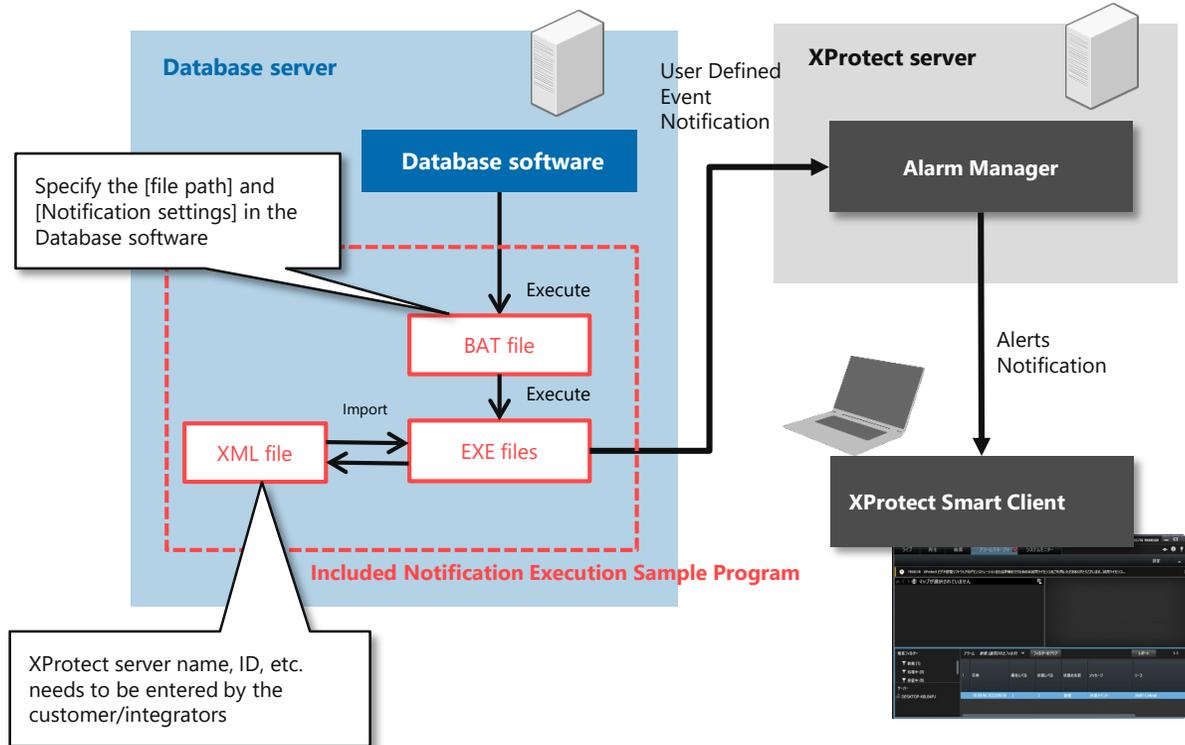
*1 The Start Analysis Sample Program, the Notification Execution Sample Program, and the Power BI Desktop Template are samples which are not supported by Canon.

*2 The files provided with the product are sample code and are required to be modified to suit the users environment.

Notification Execution Sample Program to XProtect Server

- File that the database software executes for notification when the number of people remaining in an area exceeds or falls below the threshold. Notification Execution Sample Program executes a notification to XProtect.
- Depending on the use case, it is possible to use XProtect's various notification functions*1.

How notifications work with the notification execution sample program



XProtect notification functions

- ✓ **email notification**
 - ✓ **Displays notifications on the map of the XProtect Smart Client**
 - ✓ **Plays audio file on an audio device**
 - ✓ **Illuminate an alert light**
-
-

*1 The function of the alert manager differs depending on the type of XProtect, please check the specification in the environment where the alert manager is installed.

Power BI Desktop Templates

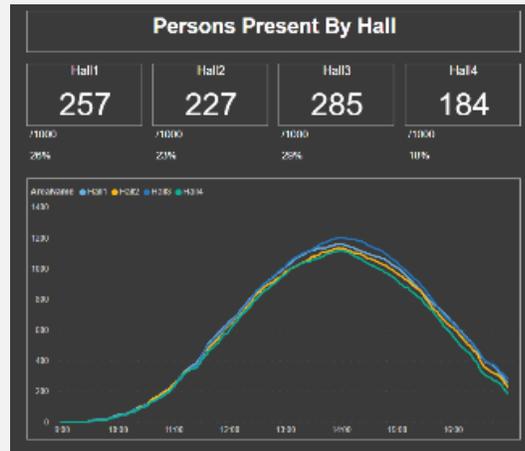
■ By using Power BI Desktop templates, it is possible to visualize the number of people remaining, from the database of the Line Crossing People Counter.

- A free sample of Microsoft's Power BI template that can be used for visualizing the people remaining is provided.
- It is possible to check in real time the number of people remaining in each area or/and the traffic volume in each aisle where cameras are installed. Also able to check the number by specifying a date and time in the past.
- Users or system integrators can edit the displayed text and time period of the graph as they like.

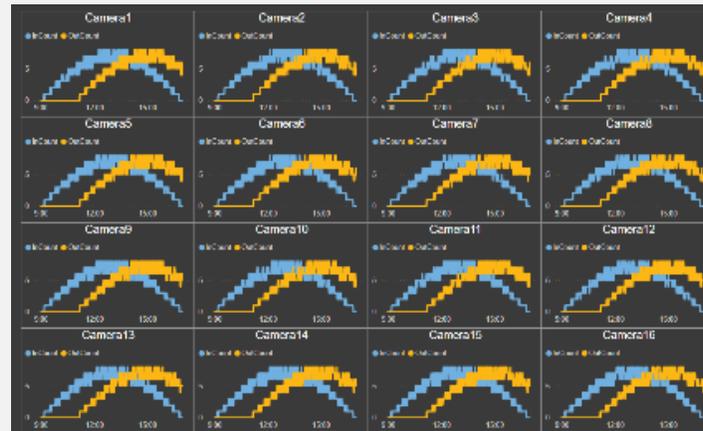
Examples of Power BI templates

Consists of three screens, and switches the display by tabs

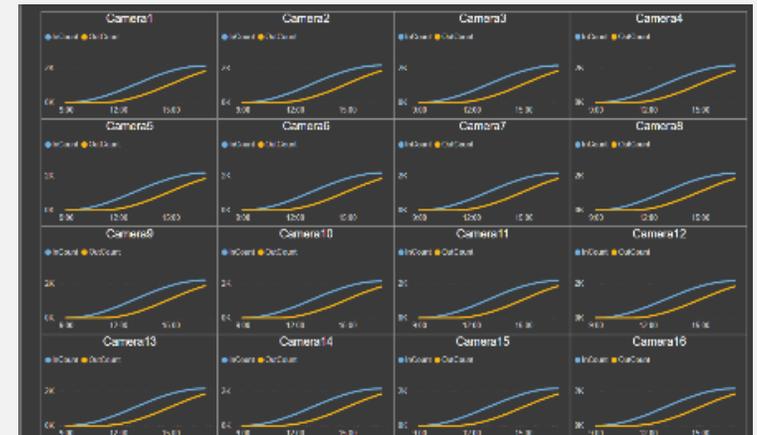
A) Shows the number of people remaining



B) Shows the number of people having crossed the line, by camera (every 1 minute)



C) Shows the number of people having crossed the line, by camera (cumulative)



Enables to

Check the changes in the number of people remaining, in real time

Check the changes in the number of people remaining on a specific date and time in the past

Check the traffic volume in the aisle/entrance and exit, in real time

Check the traffic volume on a specific date and time in the past