



Digital Security System System resources description

DATASHEET ENTERPRISE EDITION Version 7.0

The **Enterprise** edition is the package that comprises all the available resources for the Digifort System, providing total management over an unlimited number of cameras and alarm devices, making it ideal for **any company looking for full control over their security project**, ensuring high performance, reliability and scalability.

Digifort Enterprise enables the use of a wide variety of IP Cameras and Video Servers from different manufacturers, thus enabling the choice of the hardware set that best meets the needs of the customer.

The **Enterprise** edition was developed with the aim of preserving the customer's investment, maintaining all the characteristics from the earlier versions, combined to new unique features, as well as providing greater scalability for future expansions, without any limitation being imposed on the software features. With **Digifort Enterprise** you will have the best solution for digital (IP) surveillance of cameras and alarms available on the market, with intuitive adjustments and easy to understand.

General description of the surveillance and recording software:

Surveillance and recording software for closed circuit TV on TCP/IP networks with ability of controlling and displaying images from IP or analog cameras connected by video servers or encoders, in addition to recording images for later search and selective retrieval. The software features Windows based user-friendly graphical interface and the display of screen, functions, menu, and windows help.

Software Architecture:

- It works with IP and analog cameras connected to a video server or integrated DVR.
- Customer / Server Architecture.
- It allows concurrent operations such as recording, video playback, system configuration, live surveillance, event search, image search, server monitoring and several other tasks.
- It supports image recording and surveillance in Motion-JPEG, MPEG-4, H.263 and H.264.



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- It features a Multi-Streaming system.
- It allows the recording to be carried out using a given video configuration and the surveillance to be done using a different configuration, through Video Profiles.
- It works with two or more processors, sharing the software's tasks on both processors in order to increase system performance.
- It allows the use of any image resolution.
- It features a virtual keyboard on the Surveillance Client.
- It has an IP Filter resource, releasing server access only to authorized IPs.
- It enables the authentication of system users by using biometrics.
- It features compatibility with Unicode characters.
- It works with a licensing system per camera.
- It allows system expansion by using additional licenses.
- It features Slave and Master Server architecture.
- It allows sharing the same user base with all servers.
- It features automatic update of surveillance clients.
- It carries over 200 integrated camera manufacturers.
- It has more than 4500 integrated camera, DVR and NVR models.
- It is compatible with ONVIF V1.02 or higher and ONVIF Profile S.
- It supports TCP-IP and UDP (Unicast and Multicast) protocols.
- It allows the distribution of videos via multicast on demand.
- It allows e-mails to be sent through SMTP to make use of servers with SSL authentication.
- It features an automatic service manager in which the status of each available system service is displayed.
- It supports bidirectional and unidirectional audio synchronized with video, live, recorded and sectored.
- It provides full support for 360 degrees panamorphic lens dewarping with display controls in quad, virtual areas and virtual PTZ, both in live and recorded images.
- It has an integrated RTSP media server that may be used to provide media to any player that supports the RTSP protocol, besides also being able to send media to broadcast servers such as Wowza.
- It allows the RTSP media server to be integrated with third-party systems.
- The RTSP media server supports the following video formats: H.264, MPEG4 and Motion JPEG.
- The RTSP media server supports the following audio formats: PCM, G.711, G.726 and AAC.
- The RTSP server supports sending media over TCP and UDP.
- It features a database management module in which the administrator may perform a backup of the system's database, restore this database and repair a corrupted file.
- Secure access system via user name and password, access to AD (Windows Active Directory), restricted by date and time, and the computer that may be accessed, as well as confirmation by biometrics.
- It allows blocking and terminating accounts of users imported from the Active Directory.



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- It disconnects, optionally the operator, when his or her login time on the system has expired.
- It captures analog cameras from DVRs integrated to the system.
- It features a matrix which allows creating and saving different customized mosaics to be displayed on the surveillance client.
- It has the ease of bookmarking for quick event marking.
- It allows, within the bookmark, the choice of titles, colors, start and end dates, and remarks on the events.
- It allows searching and reproducing videos, via the bookmark, which are on the time line.
- It allows the automatic creation of bookmarks whenever movement is detected.
- It enables the automatic creation of a bookmark, whenever an event takes place.
- It enables edge recording.
- Access passwords and alarm devices, and the surveillance client computers are stored with encryption.
- It supports embedded analytics on cameras from the manufacturers SONY and UDP.
- It supports embedded analytics in cameras that feature notification by HTTP.

Recording:

- It supports recording speed and live display of 30 frames or more per camera.
- It supports recording of an unlimited number of cameras per server.
- It supports recording by motion detection and Events.
- The motion sensor for recording allows the selection of unlimited areas, sensitive or insensitive, to movement.
- It allows recording of redundant Databases.
- It features Failover and Failback without human intervention.
- It allows the configuration of Failover 1 to 1, 1 to N, and N to N.
- It supports recording schedule per hour and day of the week.
- The scheduling allows the administrator to specify the image recording method for each time range (Without Recording, By Movement, By Event, By Movement and Event) of each camera.
- It features a resource to increase the frame rate whenever movement is detected on the images, i.e.: standard recording at 4FPS, if movement is recognized, record at 15FPS until movement has stopped, then return to recording at 4FPS.
- It has a digital certificate system that creates a digital signature for each recorded photo, ensuring image authenticity.
- It features a recording system that does not have a daily recording limit, in other words, it supports over 600,000 images per day, per camera, without the need to move the recording to another disk or another recording folder.
- It allows the simultaneous viewing of recordings from more than one camera, through mosaics, thus allowing the reproduction of several cameras



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concurrently, over the same length of time, easing the review and analysis of the recorded images.

- It works with recordings in the JPEG, MPEG-4, H.263 and H.264 formats.
- It features buffer control for pre- and post-alarm.
- It has an image and audio archiving system.
- It features an advanced disk management system, whereas the system must automatically allocate an amount of disk space required for the recording of each camera.
- The disk management system also offers a disk quota system, with the option of limiting the amount of disk to be used, sharing this quota with all cameras.
- It is possible to configure a directory to back-up the system configurations and the number of days these backup files should be kept.
- Automatic image recording on SD-Card whenever a network failure occurs.
- The images recorded on the SD-Card may be either automatically downloaded or not in the occurrence of any programmed event, and with the option of different resolutions.
- Automatic creation of a bookmark whenever an edge recording is transferred to the main server.
- It is possible to differentiate original recordings from the ones downloaded from the SD-Cards, through the time line.
- Activity log for Edge Recordings.
- It enables to print one or several retrieved images or even reports, on which, optionally, there is an originality code printed with barcodes, for future comparisons.
- The printed images and/or reports are stored on the image server with the possibility of searching and carrying out new printing events through the originality code.
- A media server may be created to make the images available for the Internet without accessing the main server.
- Screen, keyboard and mouse capture, from any existing Windows based computer on the network and recoding of its screens on the same CCTV storage media for later searching.
- Computer screen recording in MJPEG, MPEG4 or H.264.
- It allows the choice of how many frames per second to be used for computer screen recording.
- Digital image (captured live or recorded) zoom and virtual PTZ from the network computers.
- Remove operation of those computers captured on the network.
- Audio recording on the formats: PCM, G.711, G.726 and AAC.
- Recording of images generated by the 360 degree panamorphic lenses.



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Live Surveillance:

- It supports live surveillance of unlimited cameras per client with different screen styles.
- At least seven preset screen standards for surveillance.
- Creation of new screen formats for surveillance.
- It works with a full Virtual Matrix, in which it is possible to choose the desired monitor and to send a sequence of images, maps and mosaics.
- Virtual Matrix control via SDK/API for the creation of macros and scripts in other languages.
- It is possible to choose a quadrant of a mosaic on the desired monitor in order to receive the object to be sent via the Virtual Matrix.
- Camera Sequencing System in which the system automatically replaces a group of cameras on the screen by another group, as well as it allows changing, manually, the sequencing via the forward and back buttons.
- It features an automated mosaic so that the system shall automatically adjust the display format on the screen, depending on the number of cameras on the screen.
- It allows the creation of public mosaics which may be shared with all system users.
- It allows the surveillance mosaic to be dynamically updated in real time when created, updated or erased at all the surveillance clients, without the need to reconnect to the server.
- It allows filtering objects on the object list contained on the surveillance client screen. The filter is applied to all the objects on the list, searching for the object's name and description.
- It allows increasing the frame rate of a given surveillance camera, whenever it is selected (i.e.: normal surveillance at 4FPS, whenever the user selects the camera, increase to 30FPS, and upon being deselected, return the frame rate to 4FPS).
- It has a user profile system so that the user may have his or her camera positioning profile upon accessing the camera from anywhere.
- It features motion detection in real time during live surveillance, regardless whether the camera has this function or not. This function highlights the movement on the screen with a specific color (Standard Green).
- It allows remote operations to perform an emergency local recording, thus recording the images that are being monitored.
- During live surveillance, it is possible to zoom (digitally) the different areas of the screen, thus opening a screen for each zoom carried out.
- It features a zoom system with bilinear treatment to avoid the image from becoming checkered.
- It enables the display of cameras from multiple servers (from various different places) on the same screen.
- It allows the creation of various surveillance mosaics, each with its independent camera positioning configuration.
- It supports two or more video monitors per client station for live surveillance.



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- You can select and maximize (Full Screen Surveillance Client) a camera by double clicking it.
- It features the option of removing a camera from the screen via its pop-up menu.
- It provides camera information, such as Image Resolution, Frames per Second (FPS), Transfer Rate and Decoder.
- It provides automatic identification on the surveillance client screen, the operation status of the cameras via different icons on the object list, i.e.: camera recording by movement, by event, by event and movement, stopped, operating, etc.
- It has a camera privacy feature. With this privacy mode feature, the administrator may establish a list of users who shall lose access to the camera when the operator activates the privacy mode on the surveillance client. This feature is very useful when the cameras of a given installation are externally available, as with this feature the operator may temporarily block external access to the camera whenever he or she so desires.
- It allows limiting simultaneous access to cameras. With this option, the administrator may limit the number of simultaneous cameras a user or group of users may concurrently view per work station.
- On the surveillance client, it is possible to configure the display mode of the names and objects of the system's object lists. The user may choose to display only the name of the objects, only their description, or both, under the "Name (description)" format.
- It has a Synoptic Map for live surveillance.
- It displays information on the devices, such as cameras, sensors and relays, informing the device's status through visual indicators.
- It allows a camera to be opened by directly clicking on its icon on the map.
- It allows another map to be opened through a link, thus making it a map of levels.
- It allows control through visual indicators (such as open door, turn light on, trigger siren).
- Upon moving the mouse over a camera on the synoptic map, it is possible to get a preview of the live images together with information from the cameras.
- It provides live and sectorized audio surveillance, in which the operator may choose a camera or a group of cameras which shall simultaneously receive the desired audio feed, making use of microphones and speakers.
- It enables the audio to be continuously transmitted.
- It allows monitoring of the live or recorded images generated by the 360 degree panamorphic lenses, with controls in quad, virtual areas or virtual PTZ.
- It allows images in JPEG, WMF, BMP, GIF and PNG.



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Pan / Tilt / Zoom Control:

- It features control for the PTZ cameras with more than 64 presets per camera (the number of presets depends on the camera).
- It has a joystick interface to control the PTZ cameras.
- It features a visual joystick, in which the user clicks on the image and drags the mouse towards the direction the camera is to be moved. It also supports zoom via the mouse wheel.
- It has a visual joystick with zoom control via the buttons.
- It features PTZ block by priority.
- It features a PTZ Surveillance system with the possibility of scheduling surveillance schemes based on day and time.
- The PTZ system allows control over the Focus, Iris, Auto-Focus and Auto-Iris, as well as also allowing PTZ Absolute and Relative controls of the cameras with these features.
- It has native protocol support for analog cameras.
- It features Virtual PTZ for fixed and mobile cameras.
- It allows the configuration of PTZ surveillance, manual or automatic, by the system's scheduling scheme.
- Under the PTZ surveillance scheme, a number, as well as name, may be applied. The number shall be used to call the scheme through a certified keyboard.
- It enables the operator to identify the person who used the PTZ block.
- It allows the determination of PTZ control rights individually for each user, thus each camera shall feature PTZ control rights for different users and group of users.
- It allows informing the information of the last user who moved the camera using PTZ.

Video Playback, Search, and Export:

- It allows a user to select a standard monitor to open the Media Player. (Multi Monitor).
- The image reproduction system is based by retrieval using a date and hour range, both specified by the user.
- It has synchronized playback from multiple simultaneous cameras.
- It allows, in a single surveillance client, video playback of unlimited cameras concurrently.
- It has synchronized export from simultaneous multiple cameras.
- It features simultaneous video playback and export.
- It has a time line of the recorded images which must display the points where there is recording and/or movement, as well as allows the selection of the current time through the time line.
- It features an image de-interlacing system for video playback.



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- In video playback, it allows the (digital) zoom of different areas on the screen, thus opening a screen for each digital zoom carried out, whereas each one has independent control over the main image, which can be printed or saved in JPG files.
- It features Search for Movement on the recorded images, retrieving a video with movement only in the areas selected on the image.
- It enables the opening of the Media Player in non-modal mode, which allows the user to continue working with the client while the player is open.
- It exports the recorded video in AVI and CD formats of occurrence to removable media, and it monitors the video player, native to the system.
- The system, during export and search for movement on recorded videos, allows the display of the time remaining until the end of the operation.
- It allows a particular photo from the video playback to be printed, with a description, date and time of the event.
- Videos exported in AVI and images in JPEG feature watermarks with the camera's name and the date and time.
- It has instant playback of videos from events.
- It features the possibility of limiting, within the policies for user and group of users, video playback and export, thus avoiding that a playback or export with more than X minutes (configurable) from being carried out.
- It allows adding a watermark per user for identification of image ownership.
- It allows adding a text watermark to exported images.
- It allows, during the search for events by the surveillance client, that a video playback from the cameras linked to the event may reproduce a video from the cameras associated to that event, issued via alarm pop-ups.
- The video may be sped up, during playback, to: 2x, 4x, 8x, 16x, 32x, 64x, 128x, 256x and 512x.
- The software allows the video playback to be carried out with multi-thread resources, significantly increasing the performance for the playback of simultaneous cameras, especially in megapixel.
- The video player resizes images according to the configuration of the surveillance client, such as centralize, resize to occupy the entire space and resize maintaining the image's original proportion.
- It allows the playback of audio and video synchronized in the proprietary format and AVI.
- It enables the playback of recorded images through the 360 degree panamorphic lenses, providing some controls such as display in quad, display of virtual areas and virtual PTZ.
- It allows the user to choose the interval for skipping (X minutes) ahead or back on the recorded video, thus easing the analysis of the recorded video.
- It allows for video resizing during export in AVI to ensure better compatibility with existing codecs.
- It allows fast-forwarding and rewinding the video, frame by frame.
- It allows fast-forwarding and rewinding the video to the next bookmark.
- It allows searching, by the code of originality, an image generated in a report.



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- The export of media is audited, allowing future database searches, such as: period exported, directory where the file was exported to, total size of export, etc.
- During video export, the name of the company and operator's information may be automatically filled in by the system, recording them on the exported media.
- It enables the playback of events on the exact moment they took place as well as making the images available up to one hour prior to the event.

Alerts and Events:

- The system has complete management over alarms and events, with recognition of alarms from any device with dry contact connected to the video cameras or servers. This alarm management includes the following features:
- In the event of an external alarm (any alarm sensor connected to the cameras or video servers), the system shall take pro-active actions in order to alert the operators, with possibilities of sending an e-mail and/or SMS to a group of people warning them about the occurred, opening on screens of the pop-up type images from the cameras, maps, analytics, LPR, issue alarm sounds, sending instant messages to the operator via screens of the pop-up type, positioning the cameras with (PTZ) Movement in defined Presets and triggering alarm outputs of the cameras where these outputs can be connected to sirens. All these alarm actions can be independently configured for each camera and all of them must have an operation schedule, whereas they shall be called upon only if the scheduling permits them to do so.
- The System takes pro-active actions in the detection of movements from the cameras on preset times, that is, if on a preset time, where no movement should take place in a particular camera, the system detects movement, all previously described alarms actions shall take place (sending e-mail / SMS), opening images from cameras in pop-ups, sounding alarms, sending instant messages to the operator, positioning PTZ cameras in preset points and triggering alarm outputs from the cameras and/or video servers).
- The System can also take all these pro-active measures if the camera or video server becomes inoperative and/or any error takes place during image recording.
- It provides actions such as manual alarm, in which the operator shall be able to trigger the pro-active actions through a single click on a list of actions.
- The System provides a recognition schedule for external alarm per camera, in other words, it may recognize the alarm only during these preset periods.



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- It has the ability of recording images in the occurrence of an event as well as providing a schedule for the transmission of these images in which it enables their transmission in the event of an alarm.
- It allows, by triggering the alarm from a camera, a recording to start and/or the transmission of images from any other camera.
- It features various alarm sounds in order to enable the operators to differentiate each alarm by means of a different sound.
- Alarm events directed only for specific Users or Group of Users.
- It allows the scheduling of one or more events for them to take place on any desired day of the month and year.
- It allows the receipt of notification of movement detection from the cameras through HTTP calls.
- Alternative video profile for movement detection on the server. With this feature, processor usage for the detection of movement on the server shall dramatically fall, significantly increasing the number of cameras that a server may process.
- It allows searching the events database, through the event type, filtering by dates, objects and others, for internal and external occurrences to the software, related to system alarms.
- It allows that on the image analysis system, the objects being alarmed by any analytic rule have their outline changed to a particular color, for example, red.
- In the occurrence of any event, the system allows the attachment of any image from any camera in order to allow it to be sent by e-mail.
- It allows customized scheduling of days (Holidays, week-ends, important dates).
- It allows the configuration of independent schedules for each event of alarm input (cameras and I/O devices).
- It is possible, in the alarm and events POP-UP itself, to playback a video of the event immediately, with the information of the server which generated such alarm.
- It allows for an audio detection event if the level is above or below a preset limit for a specified length of time.
- It supports an unlimited number of I/O modules.
- It supports an unlimited number of registered system users.
- It allows generating a communication failure event if the device remains out of operation for longer than X seconds, with the option of continue to issue the event at each X seconds while the device is off-line.
- It allows detection of audio level for alerts and events.

Administration:

- It has a feature for automatically sending server reports via e-mail, containing information such as recording status and the most recent accesses to the server.



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- The system has a tool for global settings for the cameras, in which the administrator may apply the same configuration for a group of cameras at the same time.
- It features user control and password with differentiated rights for each user.
- It has integration with Microsoft's Active Directory.
- It has a user group that allows the application of the same permission configurations for all the users belonging to the group. A user may belong to more than one group, receiving all permissions related to all the groups in which he or she belongs to.
- It features a disk calculator in order to calculate the required disk space for the recordings, based in data such as Resolution, Frames per Second, Desired storage time, and estimate movement detection events.
- It operates with the concept of alert groups in which, in the occurrence of a specific event, only the group configured to receive the alert shall be notified.
- It has a log of system events that will log all user activity as well as the activities from the system itself.
- It has a web server embedded in the system for live surveillance and remote video playback.
- It features support for HTTPS and SSL.
- It provides a server performance monitoring tool through historical graphs with information such as: Processor usage, memory use, connected users, entry traffic in KB/s and outgoing traffic in KB/s.
- It allows modifications in system objects, such as cameras, map, analytics configuration, LPR configuration, and screen styles, to be automatically reflected in the surveillance client, without the need to update the client.
- It enables the selection of the fonts to be used in the titles of cameras on the surveillance screen in regards to their format, size and color.
- It allows configuring a standard directory to export media and photos from the surveillance client screen.
- The administration and surveillance clients may automatically locate all the video recording servers available on the local network.
- It automatic searches for cameras on the network via UPnP protocol.
- It enables the automatic localization of cameras that use the ONVIF protocol.
- It features an audit system of actions from the users and server connections which allow searching user activity on the system.
- The software enables to export records from an audit and to search records of events to a .CSV file.
- The system may provide disconnection time for each camera.
- Access to event logs can only be performed by the system administrator or by a user authorized by the same.
- It has a limit for concurrent accesses by the same user.
- It enables to export reports and graphs from the system to PDF, CSV, TXT, RTF, XLS and HTML formats.
- It is possible to change the logo from the reports to the users' own.
- In camera registry, it is possible to choose the desired columns for improved identification, such as: name, description, firmware, port, address, user, whether it is active or not, etc.



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- It allows importing any object from other Digifort servers with the purpose of streamlining the configuration of a new server.
- It enables the import of cameras, alarm devices, users, configurations of analytics, and LPR.
- It allows all the screens from registered objects from the system's administration client to be exported in screen, and with this, the administrator may generate reports with the desired information.
- It allows searching by date and starting and ending times, in the audit system.
- It allows, upon double clicking on an audit record, for the latter to be expanded, showing all its details.
- It allows sending via e-mail, reports on the server's operation.
- It allows blocking access to the system after x attempts using an invalid password.
- The surveillance station, at all times, may provide the name of the operator connected to it.
- It allows the configuration of an audio buffer with the purpose of offering continuous and crisp playback.
- It has privacy mask features (inhibiting certain screen areas in order to hide any details on the screen) for fixed cameras.
- It has filters for image control (Blur, Gaussian Blur, Sharpen, Emboss, Flip, Flop, Gray Scale and Invert) per camera (Video Playback and Live Surveillance) with preset configurations.
- It features control over image shades (Red, Green, Blue, Contract, Brightness and Color Level) per camera (Video Playback and Live Surveillance) with preset configurations.
- The system offers the option of image cropping with the purpose of selecting an area in the image which will remain visible to other users.

Access via Browser:

- The system was designed to enable remote access, allowing remote access to live images and video playback through an integrated Web server or the system's client.
- The surveillance system via browser allows the user to view all cameras through previously created mosaics.
- It enables the authorized user to receive all controls for system operation.

Mobile Device Access:

It features image viewing via cell phone or any compatible mobile device running Android Armset or higher and IOS.



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- It allows connections to multiple servers.
- It allows viewing cameras individually.
- It allows saving a screenshot of the image on the mobile device.
- It allows viewing the image in full screen or in mosaics.
- It allows PTZ control.
- It allows the use of presets.
- It allows the configuration of viewing by Resolution, Image Quality and Frames per Second (FPS).
- It displays the status of Consumer Bandwidth in Kbytes.
- It allows the activation of alarms (Turn on Lamps, trigger siren, open and close gates, etc.)
- It allows the use of a cell phone integrated to the system, as if it were a camera from the system itself, enabling the transmission of live images via 3G, 4G, or wi-fi, directly to the surveillance center as well as enabling these images to be automatically recorded on the CCTV system.
- It has the ability of managing a unique media profile for mobile devices, with the purpose of creating a different configuration, aiming the smaller usage of transmission bandwidth, for these devices.
- It allows operation via virtual matrix enabling the transmission of an image from one camera within a mosaic directly to the video wall.

Integration with Digifort

Digifort enables integration with other systems, making their APIs (**ActiveX and HTTP API**) available.

Examples of systems for integration:

- PSIM Systems;
- Access Control;
- Biometric Systems;
- Automation Systems;
- Alarm Systems;
- Control Systems;
- Commercial Automation;
- Project Management;
- ERP Systems;
- etc.



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ActiveX (OCX):

- It enables integration with other systems to search for live video from any camera.
- It enables integration with other systems to search recordings from any camera.
- It enables other systems through Digifort to acquire PTZ control (Pan, Tilt, Optical zoom) and digital zoom.
- It enables integration with other systems to search for "Media Profiles" from Digifort (Recording and Viewing).
- It enables integration with other systems to export recordings.
- etc.

HTTP API:

- It enables other systems via Digifort to check the status of I/O ports from cameras / video servers.
- It enables other systems via Digifort to check the status of I/O ports from alarm devices.
- It enables other systems via Digifort to activate alarm outputs from cameras / video servers.
- It enables other systems via Digifort to activate alarm outputs from alarm devices.
- It enables other systems integrated with Digifort to acquire PTZ control of the cameras.
- It enables other systems to acquire a "Camera Listing".
- It enables other systems to acquire an "Alarm Device Listing".
- It enables other systems via Digifort to work with global events.

Note: To learn more on the operational and administrative features, see our manuals.