



Aura

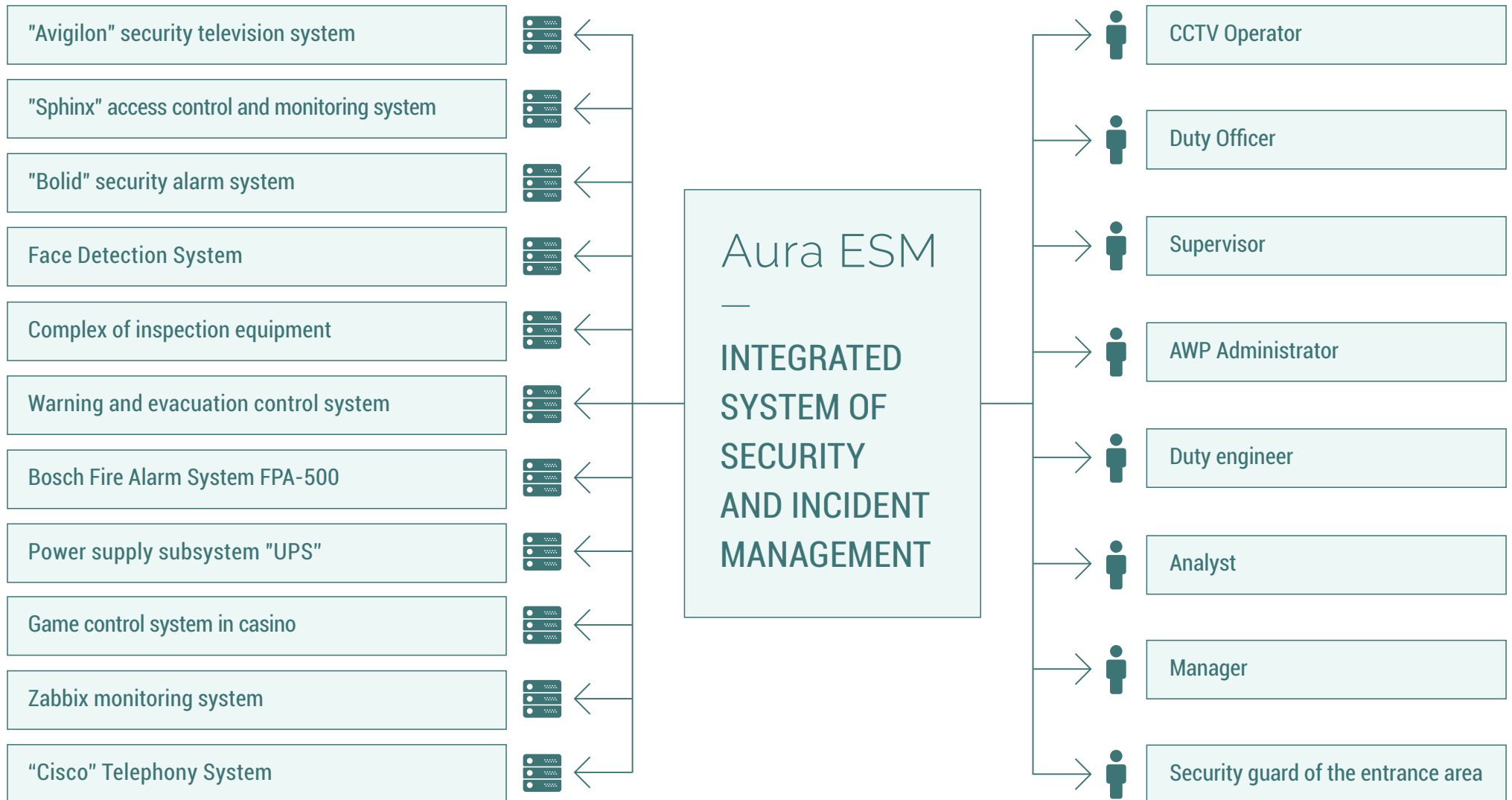
Situational Management and Accounting of Incidents

Aura ESM



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Security Television System

"Avigilon" security television system	
"Sphinx" access control and monitoring system	
"Bolid" security alarm system	
Face Detection System	
Complex of inspection equipment	
Warning and evacuation control system	
Bosch Fire Alarm System FPA-500	
Power supply subsystem "UPS»	
Game control system in casino	
Zabbix monitoring system	
"Cisco" Telephony System	

Delivers in Aura ESM:

- ✓ The list of servers, cameras.
- ✓ Video from cameras.
- ✓ Audio from microphones.
- ✓ Saved records.
- ✓ Analytical signals (traffic).
- ✓ Condition of the equipment.
- ✓ Fault signals.
- ✓ Event logs.
- ✓ User Actions.

Gets from Aura ESM:

- ✓ Camera control (PTZ).
- ✓ Management of servers.


 Aura

Access control and monitoring system

"Avigilon" security television system



"Sphinx" access control and monitoring system



"Bolid" security alarm system



Face Detection System



Complex of inspection equipment



Warning and evacuation control system



Bosch Fire Alarm System FPA-500



Power supply subsystem "UPS»



Game control system in casino



Zabbix monitoring system



"Cisco" Telephony System



Delivers in Aura ESM:

- ✓ The facts of passage / refusal of passage through access points.
- ✓ The facts of using blocked cards.
- ✓ Operating mode of controllers.
- ✓ Fault signal.
- ✓ Controller events (emergency situations).

Gets from Aura ESM:

- ✓ Lock / unlock access points.
- ✓ Blocking of the visitor card.



Security alarm system

- "Avigilon" security television system
- "Sphinx" access control and monitoring system
- "Bolid" security alarm system**
- Face Detection System
- Complex of inspection equipment
- Warning and evacuation control system
- Bosch Fire Alarm System FPA-500
- Power supply subsystem "UPS»
- Game control system in casino
- Zabbix monitoring system
- "Cisco" Telephony System

Delivers in Aura ESM:

- ✓ The facts of penetration into controlled areas (rooms, areas).
- ✓ Signals on the operation of loops.
- ✓ Signals about the condition of the equipment (opening, loss of communication).

Gets from Aura ESM:

- ✓ Arming / disarming loops / rooms.



Face Detection System

"Avigilon" security television system	
"Sphinx" access control and monitoring system	
"Bolid" security alarm system	
Face Detection System	
Complex of inspection equipment	
Warning and evacuation control system	
Bosch Fire Alarm System FPA-500	
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Delivers in Aura ESM:

- ✓ Video from the face recognition cameras.
- ✓ Information about recognized faces.
- ✓ Signals to identify a person from the black list.
- ✓ Receiving signals about the state of equipment.
- ✓ Fault signals.

Gets from Aura ESM:

- ✓ Photo / set of photos for face detection / recognition.



Complex of inspection equipment

- "Avigilon" security television system
- "Sphinx" access control and monitoring system
- "Bolid" security alarm system
- Face Detection System
- Complex of inspection equipment**
- Warning and evacuation control system
- Bosch Fire Alarm System FPA-500
- Power supply subsystem "UPS»
- Game control system in casino
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- "Cisco" Telephony System

Delivers in Aura ESM:

- ✓ Search results.
- ✓ Auto number recognition.
- ✓ Fault signals.

Warning and evacuation control system



- "Avigilon" security television system
- "Sphinx" access control and monitoring system
- "Bolid" security alarm system
- Face Detection System
- Complex of inspection equipment
- Warning and evacuation control system**
- Bosch Fire Alarm System FPA-500
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Delivers in Aura ESM:

- ✓ Mode of operation.

Bosch Fire Alarm System



- "Avigilon" security television system
- "Sphinx" access control and monitoring system
- "Bolid" security alarm system
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- Complex of inspection equipment
- Warning and evacuation control system
- Bosch Fire Alarm System FPA-500**
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Delivers in Aura ESM:

- ✓ Mode of operation.
- ✓ Sensor triggering signals.



Power supply subsystem

"Avigilon" security television system



"Sphinx" access control and monitoring system



"Bolid" security alarm system



Face Detection System



Complex of inspection equipment



Warning and evacuation control system



Bosch Fire Alarm System FPA-500



Power supply subsystem "UPS"



Game control system in casino



Zabbix monitoring system



"Cisco" Telephony System



Delivers in Aura ESM:

- ✓ Mode of operation.
- ✓ Malfunctioning of equipment.
- ✓ Performance for each UPS:
 - Charge residue,
 - Power consumption,
 - Voltage,
 - Amperage.

"Avigilon" security television system



"Sphinx" access control and monitoring system



"Bolid" security alarm system



Face Detection System



Complex of inspection equipment



Warning and evacuation control system



Bosch Fire Alarm System FPA-500



Power supply subsystem "UPS»



Game control system in casino



Zabbix monitoring system



"Cisco" Telephony System



Delivers in Aura ESM:

- ✓ Exceeding the bet threshold on the slot machine.
- ✓ Opening of the slot machine.
- ✓ Any operation with the key on the slot machine.
- ✓ The type of the game on the slot machine.
- ✓ Number of game lines per slot machine.
- ✓ Jackpot on the slot machine.
- ✓ The beginning and the end of the game on the slot machine.
- ✓ The beginning and the end of the game at the table.
- ✓ Approach to the table or the slot machine of the guest, who came for the first time.
- ✓ A combination of quads and above on the poker table.
- ✓ Excess ante of a certain amount on the poker table.
- ✓ Exceeding a certain amount of the bank in Black Jack.
- ✓ Getting a deck of pit-boss cards.
- ✓ Log into the card repository.
- ✓ Exceeding a certain bet limit on roulette.
- ✓ Change the type of game on the table.
- ✓ Exceeding the average number of bonus games.
- ✓ Pressing the alarm button on the table.
- ✓ Attempting to use a locked card.
- ✓ Leaving the casino of VIP-visitor.
- ✓ Faulty equipment.
- ✓ Other.

Monitoring system



"Avigilon" security television system



"Sphinx" access control and monitoring system



"Bolid" security alarm system



Face Detection System



Complex of inspection equipment



Warning and evacuation control system



Bosch Fire Alarm System FPA-500



Power supply subsystem "UPS»



Game control system in casino



Zabbix monitoring system



"Cisco" Telephony System



Delivers in Aura ESM:

- ✓ Information about the condition of equipment.
- ✓ Information about the state of the system.

The server infrastructure of monitoring subsystem is implemented on the base of the Zabbix product consisting of:

- ✓ Zabbix-server - remotely checks the status of network services, forms database, which stores all configuration, statistical data and information and sends out an alert in case of problems with the service or equipment.
- ✓ Zabbix-agent - performs control of local resources and applications (such as hard drives, memory, CPU statistics, etc.) on networked systems.

This subsystem monitors the entire network infrastructure that allows you to visually use all means of presenting data, available in the AuraESM system (map, tables, device tree), display the current state of the network and its nodes (equipment). At the request of the operator, display all the parameters of the selected network node. Also creates incidents based on the events received from the monitoring system (for example, troubleshooting or inaccessibility of the network node).

All this allows us to expand the capabilities of our system, and makes it truly integrated



Telephony System

"Avigilon" security television system	
"Sphinx" access control and monitoring system	
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Delivers in Aura ESM:

- ✓ Reports on phone calls.
- ✓ Information about the state of the system.

Gets from Aura ESM:

- ✓ Initiating a call.
- ✓ Initiation of audio conference / Adding a participant to the conference.
- ✓ Command to send SMS.



CCTV Operator

Functions:

- ✓ Incident registration.
- ✓ Processing incidents in accordance with the action sequences for each type of incident.
- ✓ Initiation of telephone calls or voice conferences.
- ✓ The transfer of incidents to another operator, the duty officer or supervisor.
- ✓ Displaying message feeds from external systems (except for the control system of game process) in real time and from the archive.
- ✓ View broadcasts from CCTV cameras, and recordings from cameras.
- ✓ Formation of "layouts" from broadcasts from CCTV cameras and external system messages.
- ✓ Send commands to external systems.
- ✓ Message exchange.

 CCTV Operator

 Duty Officer


 Supervisor

 AWP Administrator

 Duty engineer

 Analyst

 Manager

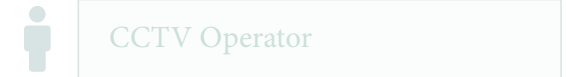
 Security guard of the entrance area



Duty Officer

Functions:

- ✓ Incident registration.
- ✓ Processing incidents in accordance with the action sequences for each type of incident.
- ✓ Initiation of telephone calls or voice conferences.
- ✓ Obtaining information about operators and their workload by incidents.
- ✓ Reassigning those responsible for the incidents.
- ✓ Work with event logs, user actions and incidents.
- ✓ View messages from external systems (except the game management system) in real time and from the archive.
- ✓ Viewing broadcasts from CCTV cameras (except the game zone) and recordings from cameras.
- ✓ Formation of "layouts" from broadcasts from CCTV cameras and external system messages.
- ✓ Send commands to external systems.
- ✓ Message exchange.

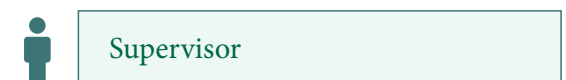




Supervisor

Functions:

- ✓ Manage the limitations and privileges of operators.
- ✓ Creation of schemes for allocation of responsibility zones for different numbers of video surveillance operators in the shift.
- ✓ Application of schemes of distribution of responsibility zones to the current shift.
- ✓ Incident registration.
- ✓ Processing incidents in accordance with the sequence of actions for each type of incident.
- ✓ Initiation of telephone calls or voice conferences.
- ✓ Obtaining information about operators and their workload by incidents.
- ✓ Reassigning those responsible for the incidents.
- ✓ Work with event logs, user actions and incidents.
- ✓ Viewing messages from external systems in real time and from the archive.
- ✓ Viewing broadcasts from CCTV cameras and camera recordings.
- ✓ Formation of "layouts" from broadcasts from CCTV cameras and external system message tapes.
- ✓ Send commands to external systems.
- ✓ Message exchange.





AWP Administrator


Functions:

- ✓ Configuring the system.
- ✓ Group rights management.
- ✓ Group management of user accounts.
- ✓ Managing connected devices.
- ✓ Managing incident types and sequence of actions on their processing.
- ✓ Managing user roles (on the basis of territorial and external systems).
- ✓ Work with event logs, user actions and incidents.
- ✓ Ability to view the system with the privileges of any role.
- ✓ Processing incidents of the "fault" type.
- ✓ Message exchange.

 CCTV Operator

 Duty Officer

 Supervisor

 **AWP Administrator**

 Duty engineer

 Analyst

 Manager


 Security guard of the entrance area



Duty engineer

Functions:

- ✓ Configuring the system.
- ✓ Work with event logs, user actions and incidents.
- ✓ Processing incidents of the "fault" type.
- ✓ Message exchange.

 CCTV Operator

 Duty Officer


 Supervisor

 AWP Administrator

 **Duty engineer**

 Analyst

 Manager


 Security guard of the entrance area



Analyst

Functions:

- ✓ Work with event logs, user actions and incidents.
- ✓ Work with reports in the context of incidents, systems, devices, premises, employees.
- ✓ Message exchange.


 CCTV Operator

 Duty Officer


 Supervisor

 AWP Administrator

 Duty engineer

 **Analyst**

 Manager


 Security guard of the entrance area



Manager

Functions:

- ✓ Work with event logs, user actions and incidents.
- ✓ Work with reports in the context of incidents, systems, devices, premises, employees.
- ✓ Message exchange.

 CCTV Operator

 Duty Officer

 Supervisor

 AWP Administrator

 Duty engineer

 Analyst

 **Manager**


 Security guard of the entrance area



Security guard of the entrance area

Functions:

- ✓ Message exchange.

 CCTV Operator

 Duty Officer

 Supervisor

 AWP Administrator

 Duty engineer

 Analyst

 Manager

 Security guard of the entrance area



Main features

Server software includes modules for integration, analysis, collection and storage of data received from integrated systems and allows:

- ✓ Receive and save events from integrated systems.
- ✓ Carry out an analysis of events for the detection of incidents.
- ✓ Receive lists of equipment systems.
- ✓ Monitor the status of equipment systems.

Implemented integration modules with systems:

- ✓ Security television system (STS). AVIGILON.
- ✓ Face Detection System (FDS). ** under development
- ✓ Security alarm system (SAS). BOLID.
- ✓ Access control system (ACS). SPHINX.
- ✓ Automatic fire alarm (AFA). BOSCH.
- ✓ Warning and evacuation management system. BOSCH.
- ✓ Complex of inspection equipment (CIE).
- ✓ Power supply system (PSS).
- ✓ Game control system in the casino.
- ✓ Subsystem of telephony. ** under development
- ✓ ZABBIX server infrastructure monitoring subsystem.

The client software provides a user interface to the integrated systems. Client software allows:

- ✓ In real time, display the status of the object and integrated systems both on the interactive map, and various lists and reports.
- ✓ Display all events and incidents on objects coming from systems.
- ✓ Manage integrated systems.
- ✓ View event and report logs.
- ✓ View data from integrated systems.
- ✓ Separate users according to their roles and privileges.
- ✓ Provide action algorithms for incidents.
- ✓ Flexibly configure the interface, including with the support of multimonitor systems.
- ✓ Accumulate information about the actions of incident handling operators.
- ✓ Organize a joint work using messaging.

In addition, the Client Software has a number of security measures:

- ✓ Authorization of users.
- ✓ Differentiation of users according to their privileges.
- ✓ Limitation of application start from unauthorized workstations.
- ✓ Integrity control Client software.



Our system has a modular structure, including core, Client software and integration modules.

By adding integration modules, we can be integrated with virtually any system or equipment.

In this case, almost any SDK / API / Interaction protocols provided by the integrated systems or equipment can be used.

INTEGRATION MODULES

INTEGRATION
PREVIOUSLY INTENDED
SYSTEMS

INTEGRATION
DIRECTLY
WITH DEVICES

At this stage, our system saves from 1.1 to 2.5 million events per day (an average of 2 million)



The main stream of events is given by the video surveillance system Avigilon (video events, for example, detection Motion from the camera).



The system was commissioned on site with more than 4000 end devices on 6 systems.



The system is designed for scalability.



The system successfully passed the testing under the load of more than 15 million events per day.



Technological stack

The server software of the System is built on the basis of the server software "SITUATOR". The component is implemented using the following technologies and libraries:

- ✓ WSO2 Enterprise Integrator 6
- ✓ Microsoft .Net FrameWork 4.6.2.
- ✓ Microsoft WCF.
- ✓ Active MQ 5.14.1.
- ✓ PostgreSQL 9.6.
- ✓ PostGIS.
- ✓ PGPOOL.
- ✓ JDK 8.
- ✓ Avigilon SDK.
- ✓ Application server: Microsoft IIS8.5.
- ✓ Programming languages: JAVA, Microsoft C#.Net.
- ✓ Operating Systems: Windows Server 2012R2, CentOS 7 x64.
- ✓ REDIS.

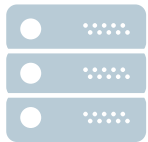
The client software that implements the functions of workstations is developed using the following technologies and libraries:

- ✓ Programming language: Microsoft C#.Net.
- ✓ Microsoft .Net 4.5:
 - Microsoft WCF.
 - Microsoft WPF.
- ✓ Developer Express Single Platform for Microsoft Windows Forms.
- ✓ Firebird 3.
- ✓ Avigilon SDK.

For users of the role of "Analyst" is expected to use additional software to work with interactive reports:

- ✓ Qlik Tech Qlik Sense.

All components of the SITUATOR system (except external) can be provided in the form of source codes in C# for analysis for undocumented features.



Technical means

- ✓ Server platform.
- ✓ Operator's workplace.



Software for working with interactive reports

- ✓ QlikView.



Client software

Software license for "SITUATOR"

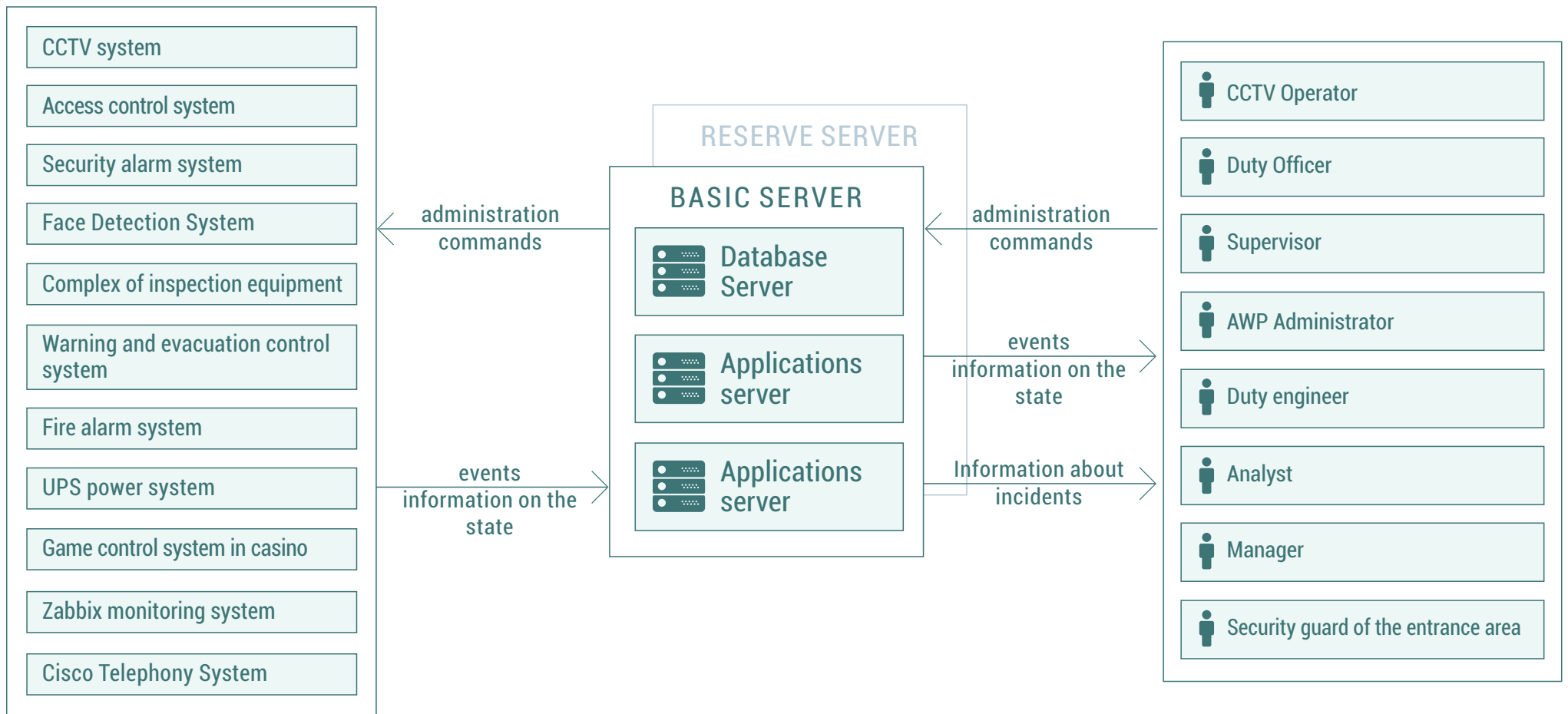
It is possible to supply in the source code or provide source code for examination

- ✓ "System Administrator".
- ✓ "Manager".
- ✓ "Duty engineer".
- ✓ "Duty Officer".
- ✓ "Supervisor."
- ✓ "The operator of video surveillance".
- ✓ "Analyst".
- ✓ "Security guard of the entrance (service) zone".



Set of technical documentation

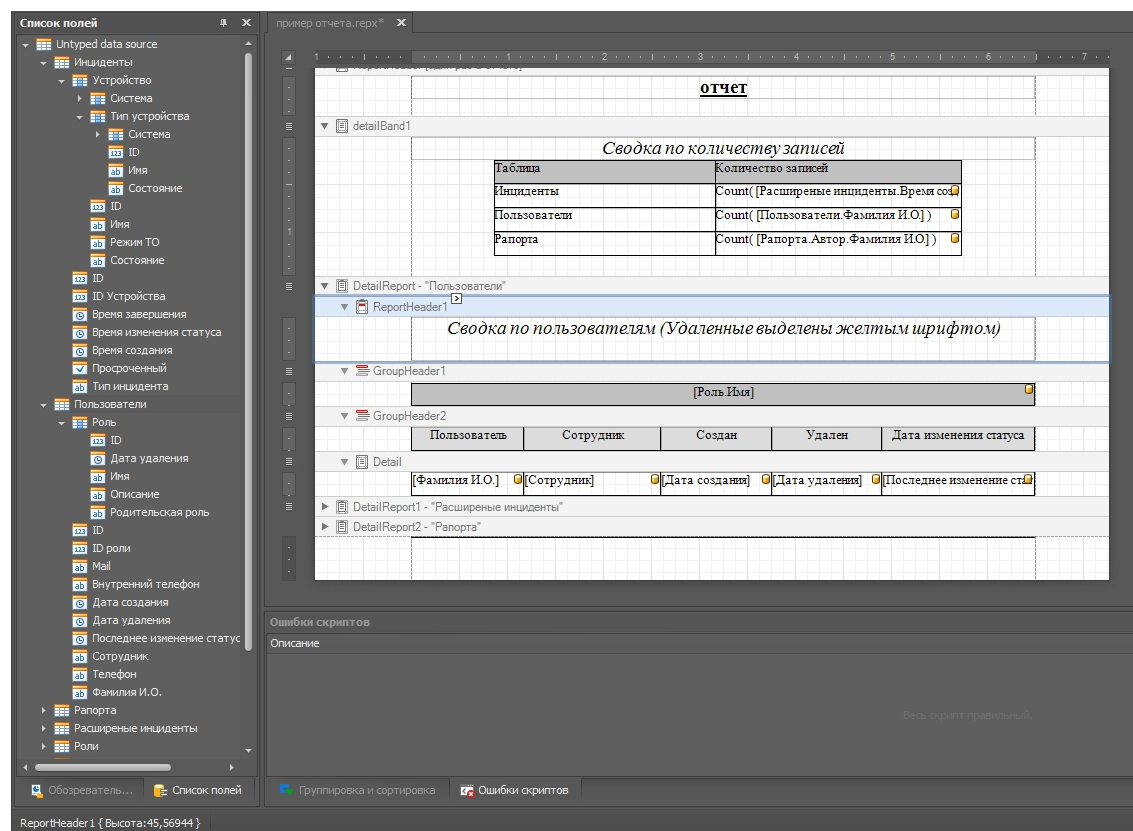
- ✓ Administrator's Manual.
- ✓ System User's Manual.

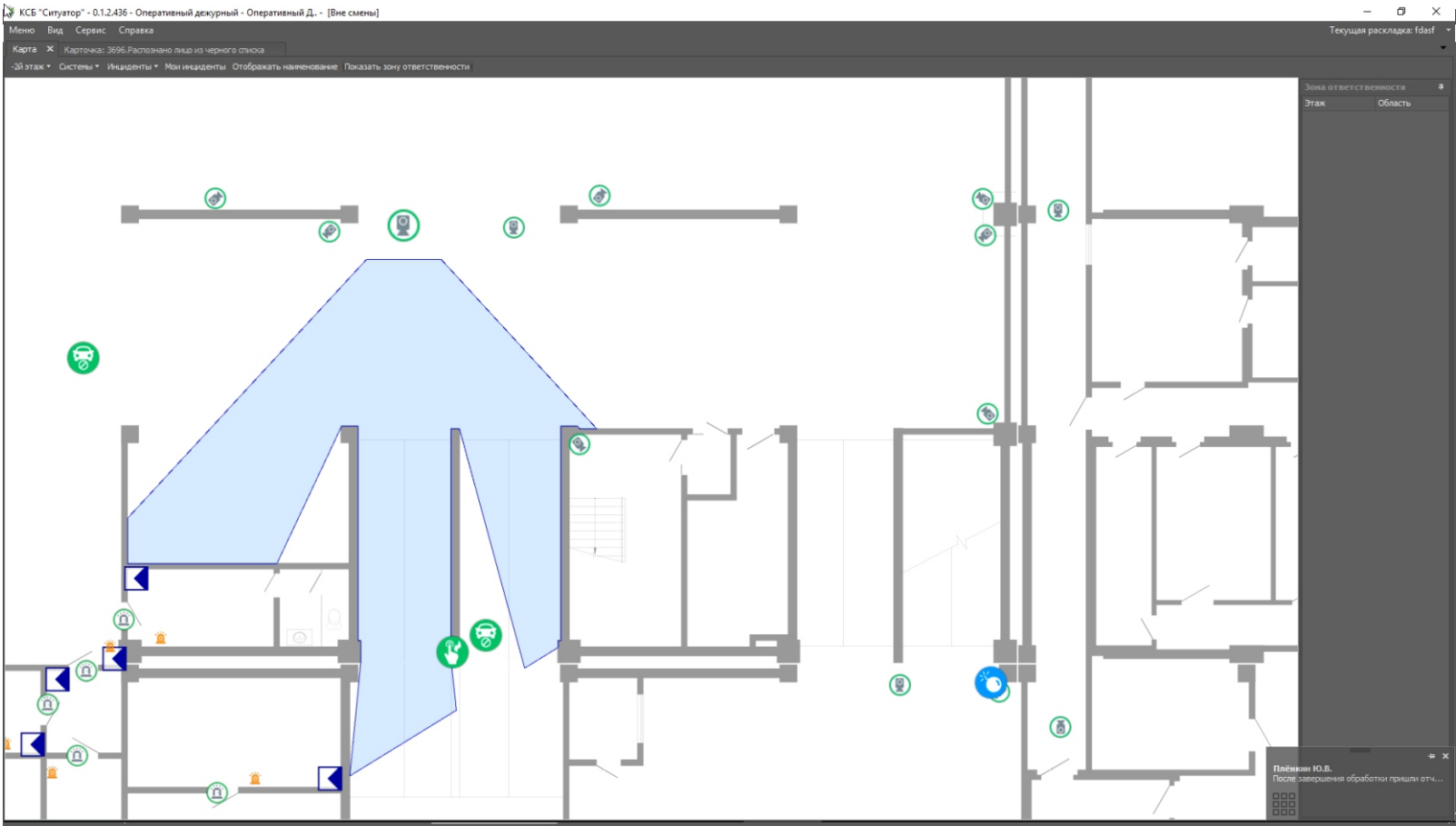


Tool designed to develop reports of any complexity through intuitive friendly interface, applicable in any of the supported business processes.

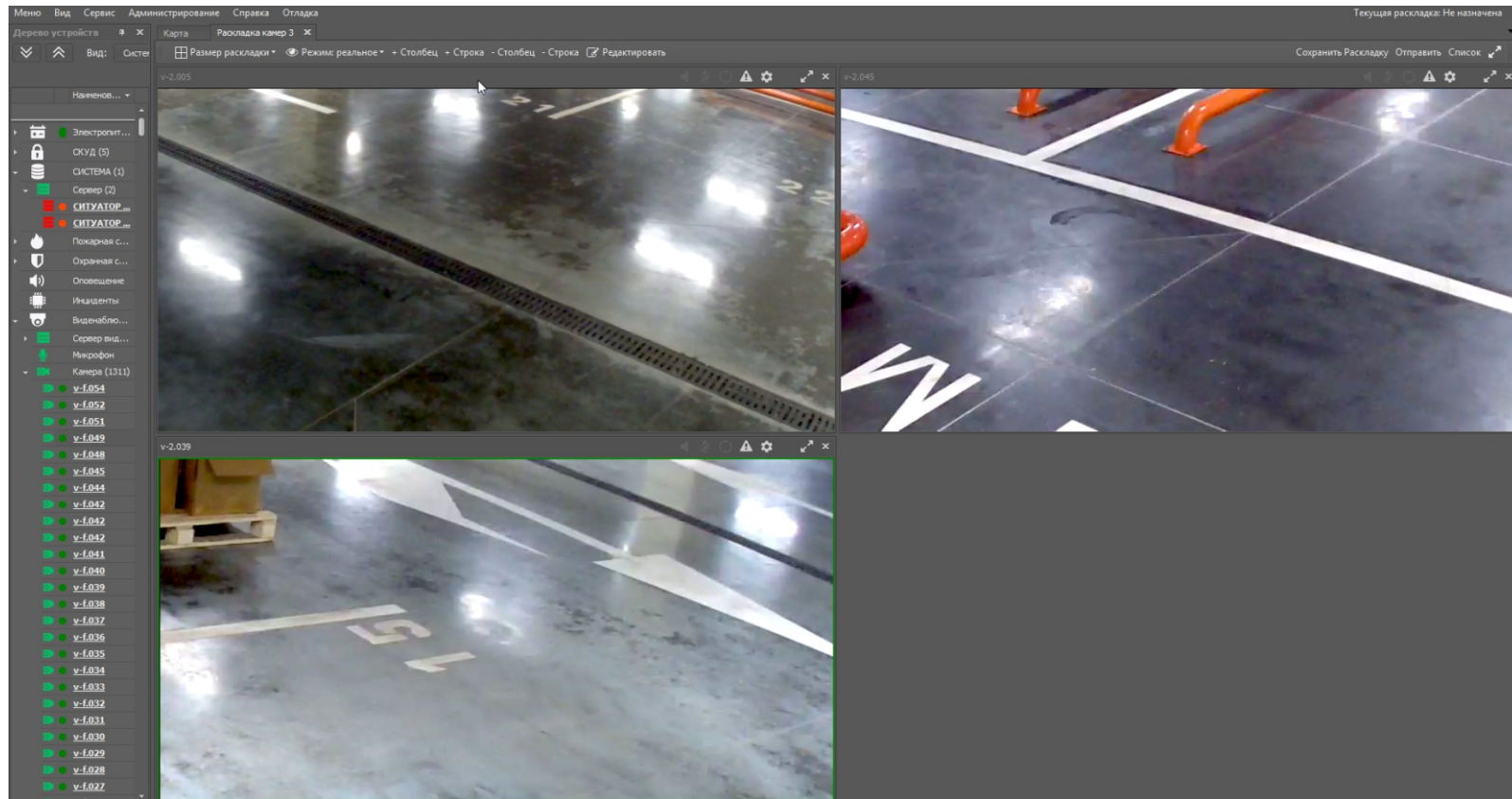
SOME OPPORTUNITIES:

- ✓ Flexible customization of report views and presentation format (text, table, figure, diagram).
- ✓ Report designer for creating templates of the report.
- ✓ Applying different design styles under certain conditions.
- ✓ Generate reports on a given schedule.

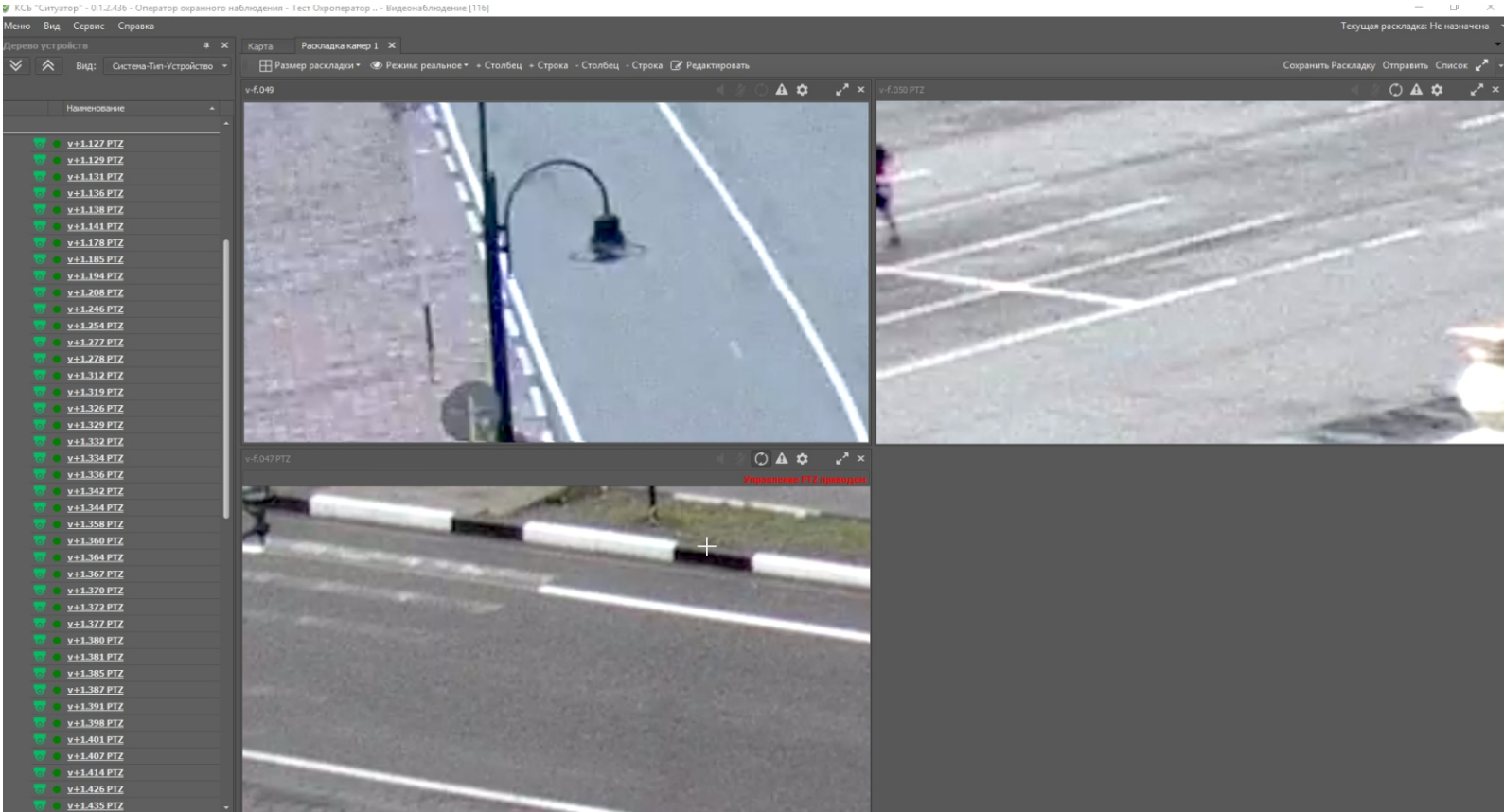




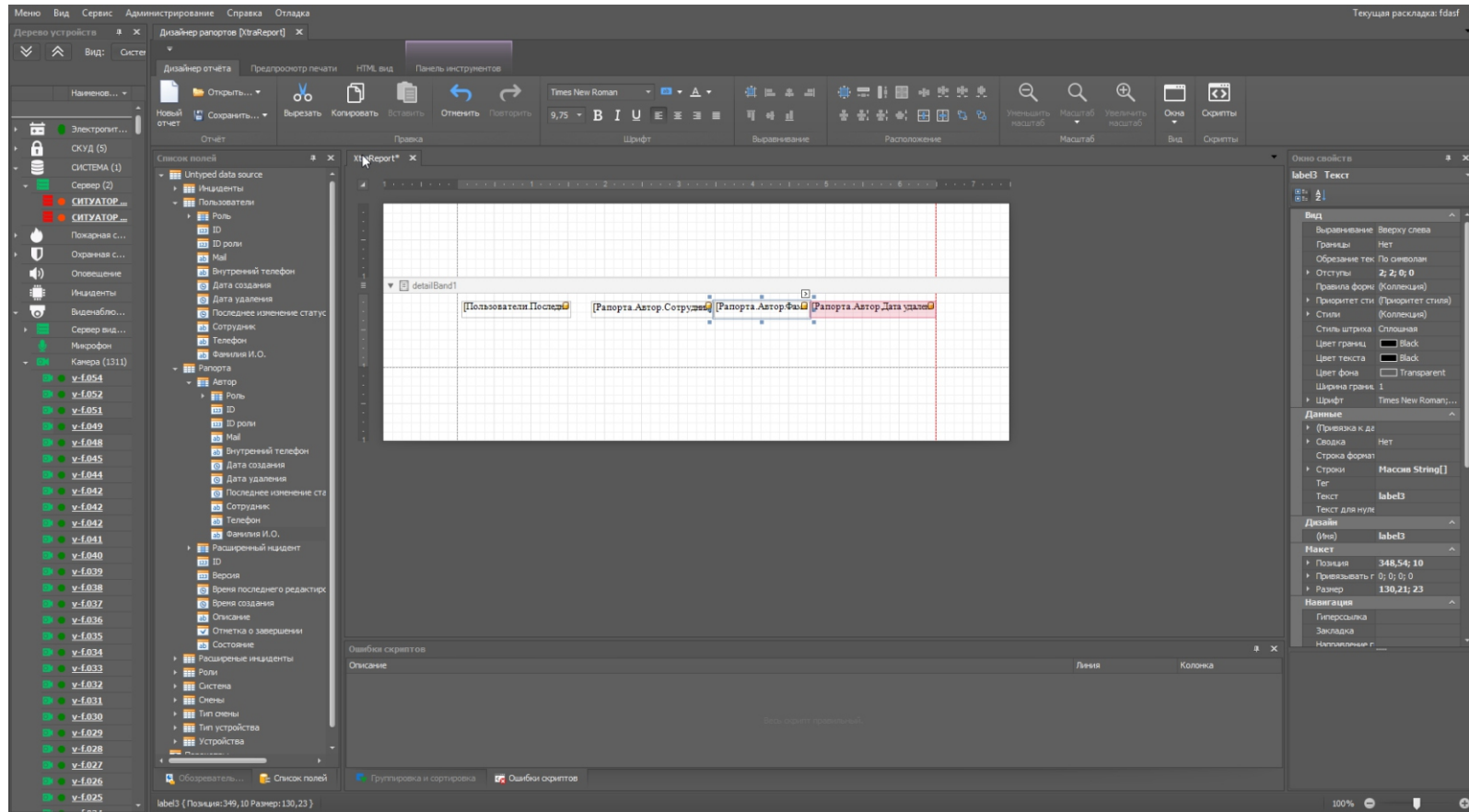
The plan of the object with the display of active incidents, devices, sectors of the camera survey. Any place on the blueprint can be shown as an automatically formed camera layout, based on the sectors of the review loaded into the system.



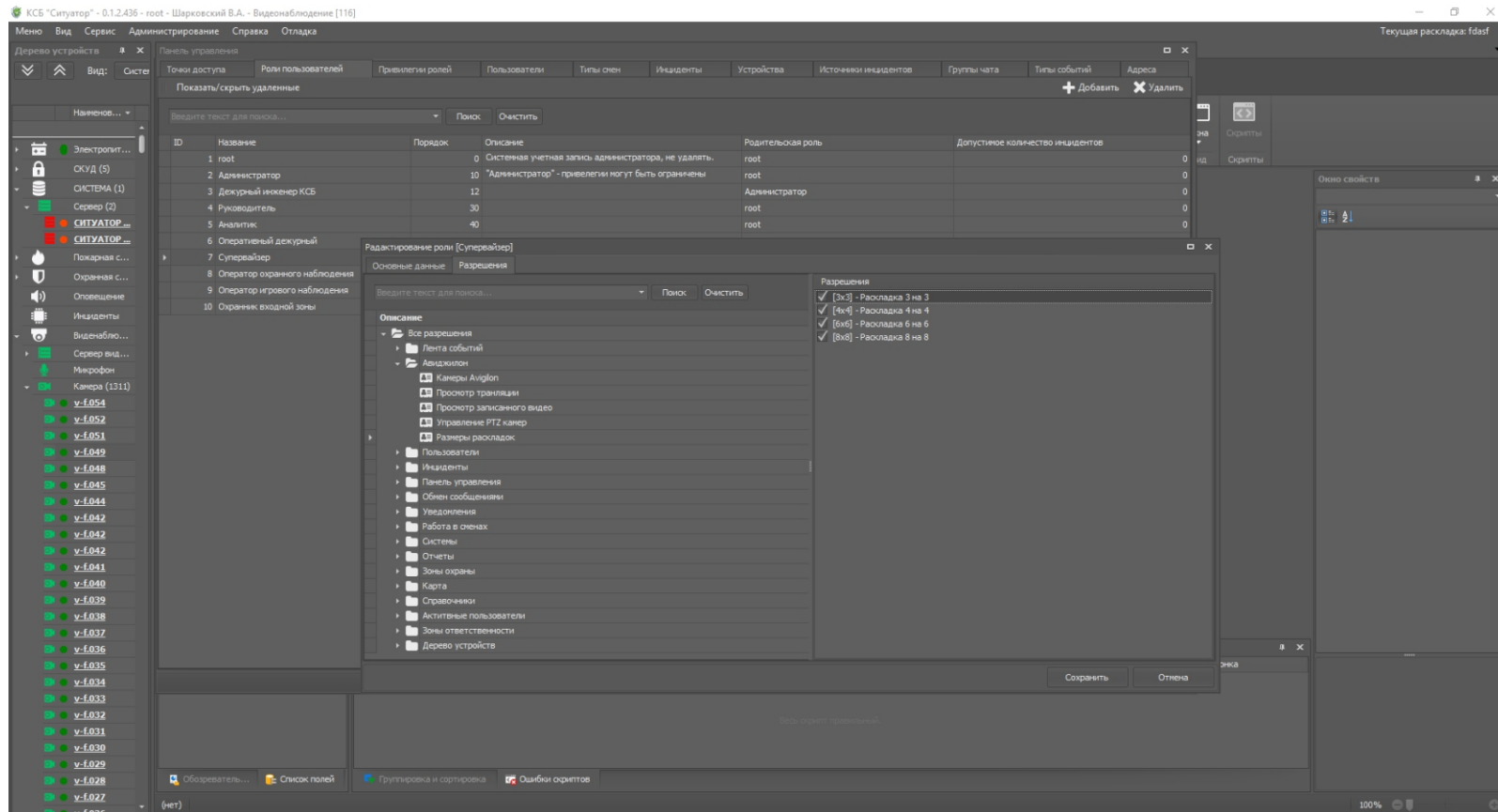
Automatically generated camera layout, displaying the layout of the facility, including all cameras that "see" the specified point.



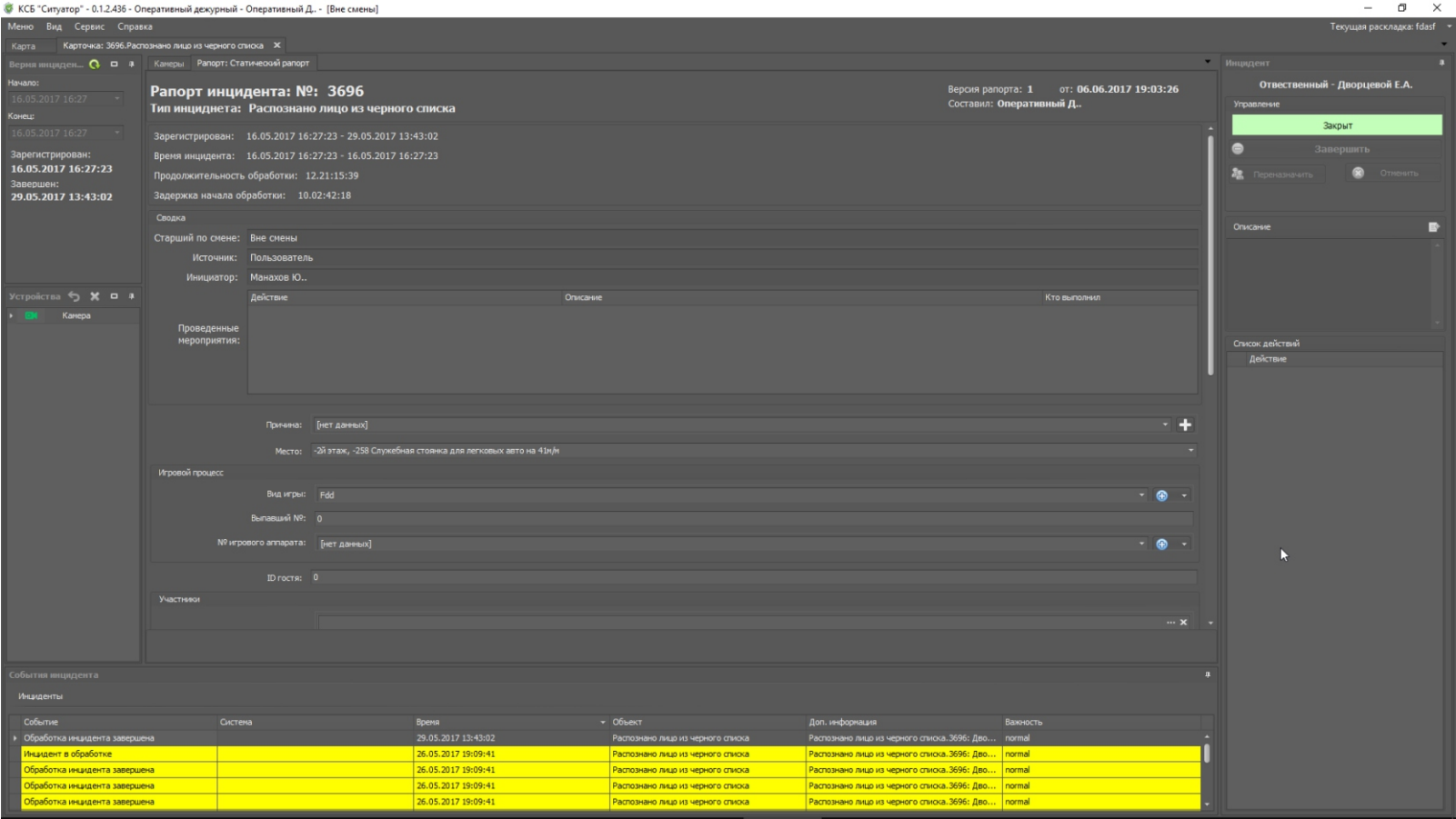
Customly configured camera layout, with the ability to control the mechanical Pan-tilt-zoom drive.



The designer of the report form according to the system data.



The system administration panel and the privilege configuration form for the role (user categories).



КСБ "Ситуатор" - 0.1.2.436 - Оперативный дежурный - Оперативный Д. - [Вне смены]

Карта | Карточка: 3696. Распознано лицо из черного списка | X

Версия инцидента: 16.05.2017 16:27

Канера | Репорт: Статический репорт

Репорт инцидента: №: 3696

Тип инцидента: Распознано лицо из черного списка

Версия репорта: 1 от: 06.06.2017 19:03:26
Составил: Оперативный Д.

Зарегистрирован: 16.05.2017 16:27:23 - 29.05.2017 13:43:02
Время инцидента: 16.05.2017 16:27:23 - 16.05.2017 16:27:23
Продолжительность обработки: 12.21:15:39
Задержка начала обработки: 10.02:42:18

Сводка

Старший по смене: Вне смены
Источник: Пользователь
Инициатор: Манахов Ю.

Действие	Описание	Кто выполнил
Проведенные мероприятия:		

Причина: [нет данных]

Место: -3й этаж, -258 Служебная стоянка для легковых авто на 41л/к

Игровой процесс

Вид игры: Fdd

Выпавший №: 0

№ игрового аппарата: [нет данных]

ID гостя: 0

Участники

События инцидента

Инциденты

Событие	Система	Время	Объект	Доп. информация	Важность
Обработка инцидента завершена		29.05.2017 13:43:02	Распознано лицо из черного списка	Распознано лицо из черного списка.3696; Дво...	normal
Инцидент в обработке		26.05.2017 19:09:41	Распознано лицо из черного списка	Распознано лицо из черного списка.3696; Дво...	normal
Обработка инцидента завершена		26.05.2017 19:09:41	Распознано лицо из черного списка	Распознано лицо из черного списка.3696; Дво...	normal
Обработка инцидента завершена		26.05.2017 19:09:41	Распознано лицо из черного списка	Распознано лицо из черного списка.3696; Дво...	normal
Обработка инцидента завершена		26.05.2017 19:09:41	Распознано лицо из черного списка	Распознано лицо из черного списка.3696; Дво...	normal

Инцидент

Отвественный - Дворцевой Е.А.

Управление

Закрит

Завершить

Переназначить

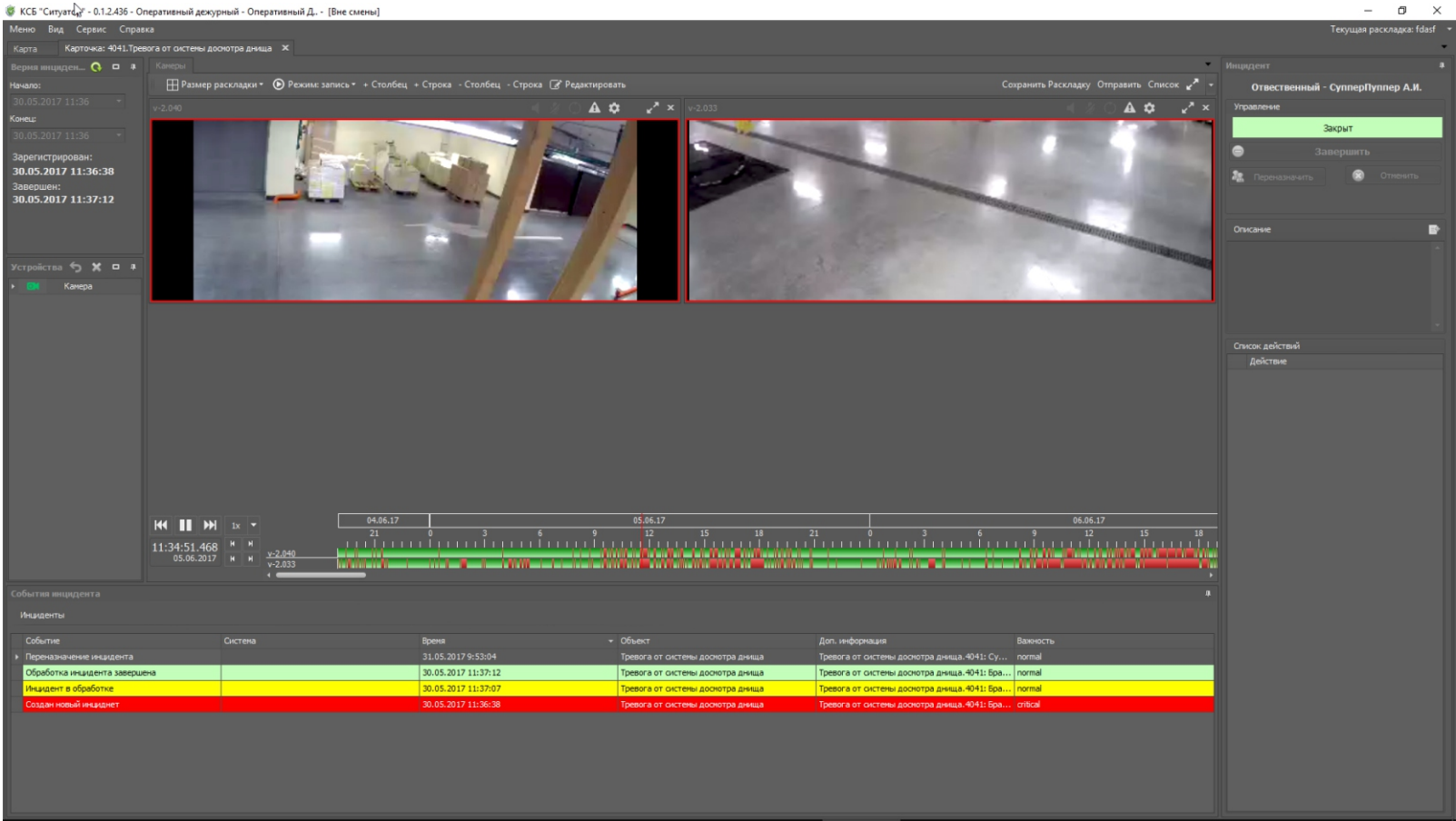
Отменить

Описание

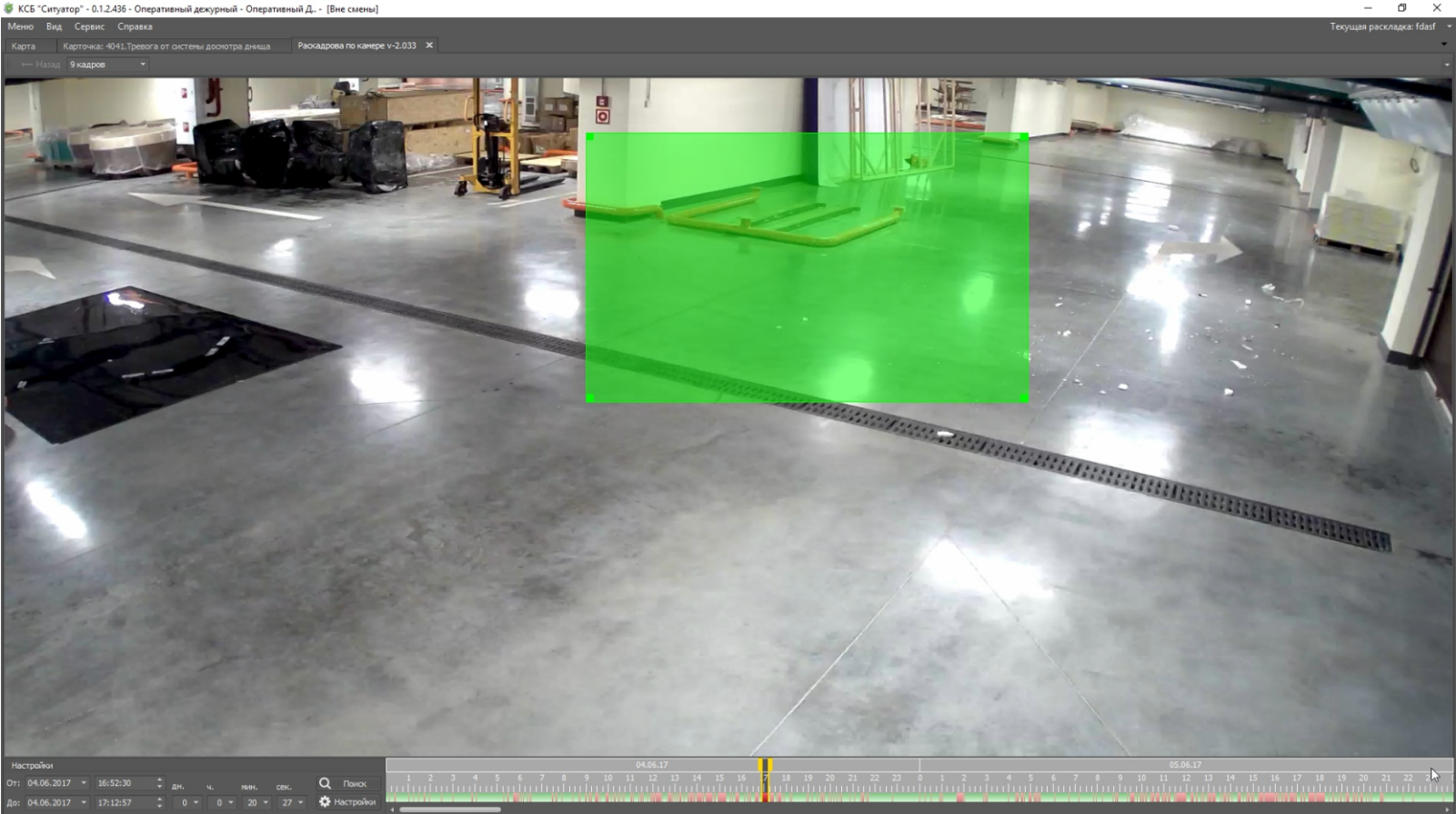
Список действий

Действие

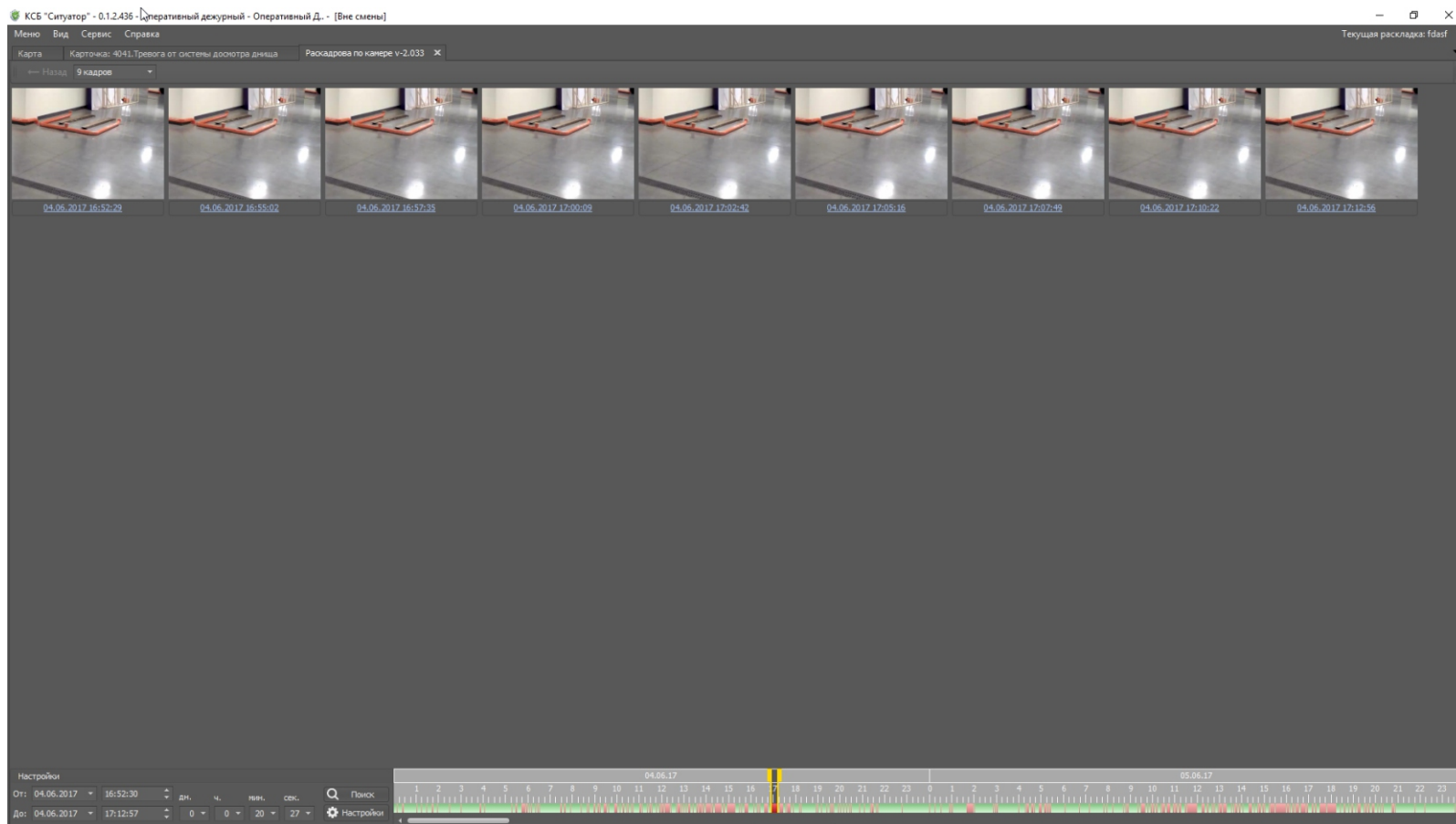
Report on the incident.



Automatically generated camera layout by incident.



The Storyboard tool, which allows you to analyze the partial area of the camera's view for the specified period and displays the result in the form of a set of slides.



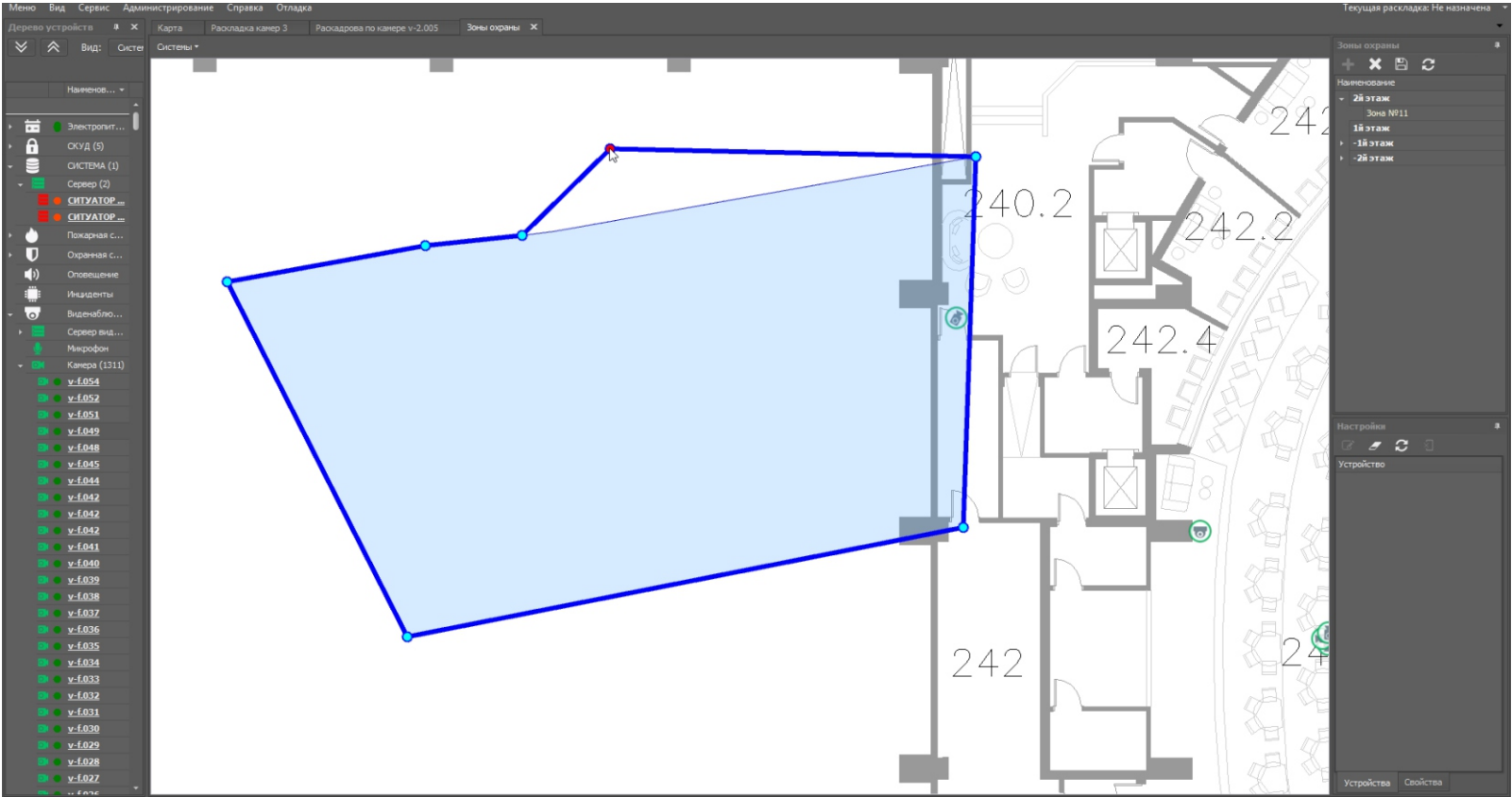
The result of "storyboarding" - by clicking on a slide, a search is performed within a smaller time interval (between the current and next slide)



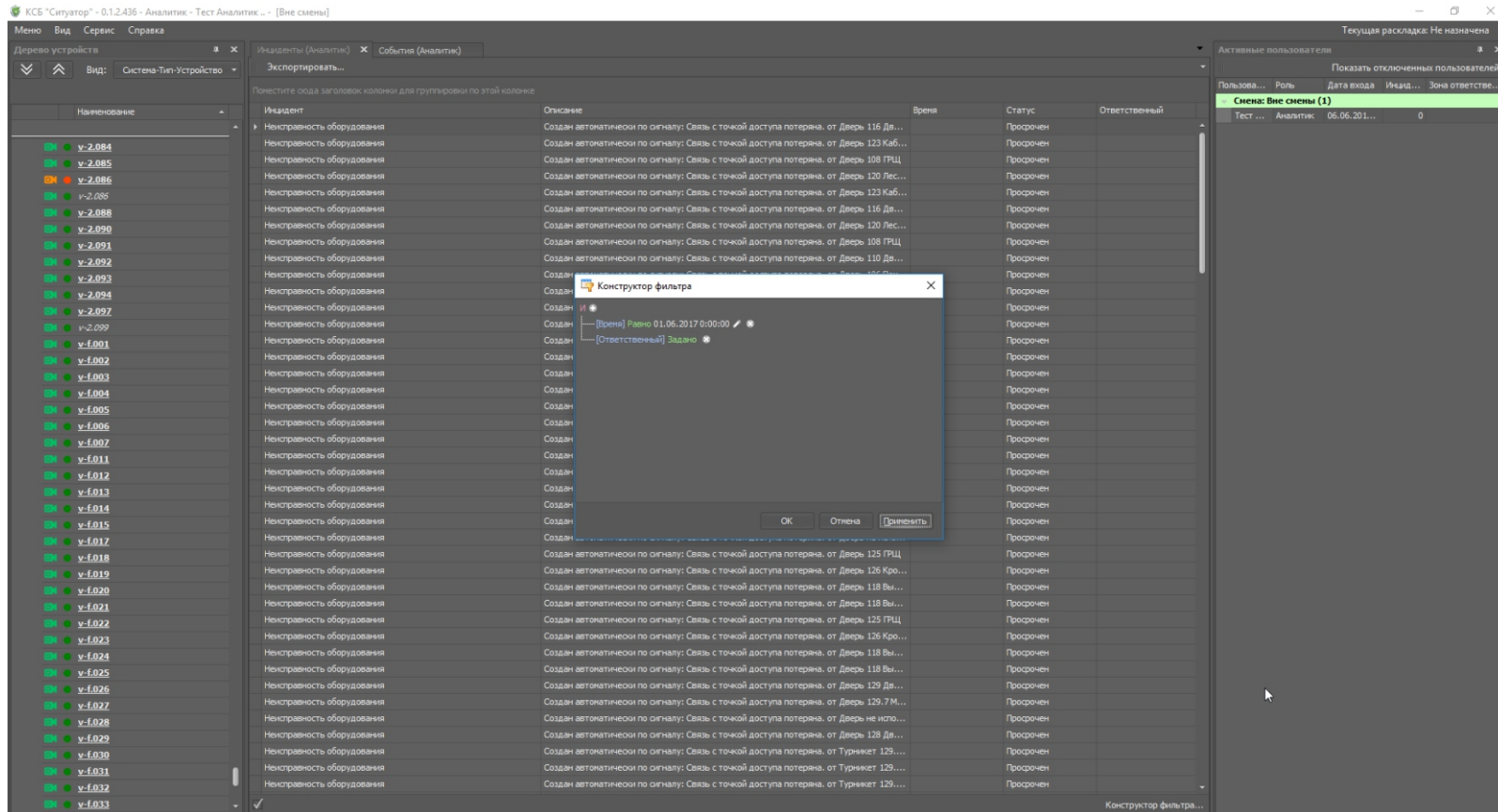
Full-screen layout of cameras in recording mode.



An instant messaging system with the ability to forward links to objects: devices, camera layouts, incidents, reports, etc.




Object map with editing security zones.



Search for events on the system archive with the ability to install arbitrary filters.

Thank you for attention!

 Cortex Technology
Limited

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