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DIGITAL Q.BPM

UNIQUE FEATURES AND COMPETITIVE ADVANTAGES

OUR EXPERTISE

33 YEARS IN THE INDUSTRY

Experience in automation of business processes for the financial services industry **since 1991.**

END-TO-END APPROACH
We understand peculiarities of every step of the process automation – from process design to go-live.

DIGITAL Q.BPM

WE CREATED DIGITAL Q.BPM PLATFORM FOR AUTOMATION OF BUSINESS PROCESSES OF FINANCIAL SERVICE COMPANIES BASED ON OUR VAST EXPERTISE IN THE INDUSTRY.

PLATFORM ADVANTAGES:

- Combines Camunda Best Practices enhanced with Diasoft's expertise.

- Provides unique tools for automation of business processes.

- **Overcomes** common process automation **challenges** and weaknesses of other BPM systems, successfully implements complex multi-step processes.

DIGITAL Q.BPM

HIGHLOAD MICROSERVICE-BASED

BPM PLATFORM TO EFFECTIVELY

AUTOMATE AND STREAMLINE YOUR

BUSINESS PROCESSES

BUSINESS PROCESS DESIGNER

Low-code tools to design business processes, set up their logic and rules, publish them in microservices, generate the register of business processes and group processes by the line of business

BUSINESS PROCESS ENGINE

Multiple ready-to-use microservices and libraries for the launch and execution of implemented business processes. To support execution of business processes and business rules, the platform allows automatically generating microservices based on the basic image.

PROCESS MONITORING

Tools for visual tracking of execution of business processes. Even though all business processes are executed in separate microservices, the platform provides a common interface for their monitoring and analysis. The collected statistical data help to identify bottlenecks in business processes and take measures to fix them.

MANAGEMENT OF USER TASKS

Tools to set up algorithms for distribution of tasks and functions of each process among employees, manage individual workloads. All employees or company clients work in a single user interface, without having to use several separate systems.

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OVERCOMING
PROCESS DESIGN CHALLENGES

VERSION MANAGEMENT

CHALLENGE: DURING DESIGN OF A BUSINESS PROCESS, RESPONSIBLE BUSINESS UNITS MAKE MULTIPLE CORRECTIONS AND IMPROVEMENTS AND NEED TO BE ABLE TO TRACK ALL CHANGES AND PROCESS VERSIONS.

## POOR VERSION MANAGEMENT IN COMMON BPMS

VS

VERSION MANAGEMENT IN DIGITAL Q.BPM

- It can be difficult to restore a specific version of the process, and this simple action can take a lot of time in standard BPMS platforms.

- Standard BPMS platforms do not allow the development teams to compare process versions and track implemented changes.

- Maintaining the history of process versions.
- Visual comparison of diagram versions.
- Tracing who and when made a specific change.
- Tracking changes both in the process scheme and in separate properties and parameters of process nodes.
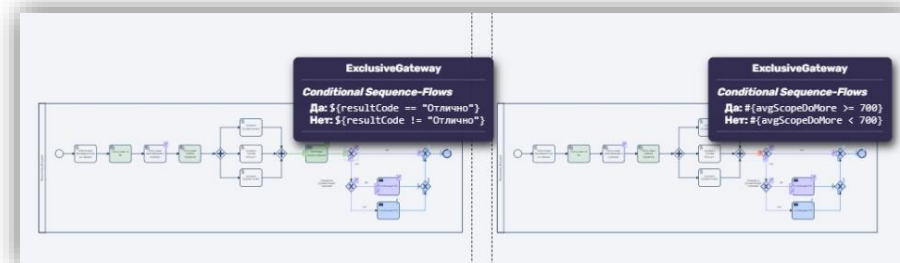
JOINT DEVELOPMENT

CHALLENGE: IN LARGE COMPANIES, BUSINESS PROCESSES ARE DESIGNED BY LARGE TEAMS RATHER THAN DEDICATED EXPERTS, WHICH REQUIRES MANAGEMENT OF THE TEAMWORK.

CHALLENGING TEAMWORK IN COMMON BPMS

Due to the lack of special tools for joint development, the use of traditional BPM systems for the teamwork

- Increases the development time.

- Can cause unauthorized corrections.

- Can cause usage of external instruments (e.g., communications via email, etc.).

VS

JOINT PROCESS DESIGN IN DIGITAL Q.BPM

- Several users work together on the same business process diagram using a shared online whiteboard.

- Each user can see actions of other team members, while the system immediately implements all changes made by each user (not only the last one).

- Users can add comments to separate process nodes or to the whole process and reply to comments left by other users.

- The system maintains the history of all communications.

- All discussions are conducted in the same communication channel.
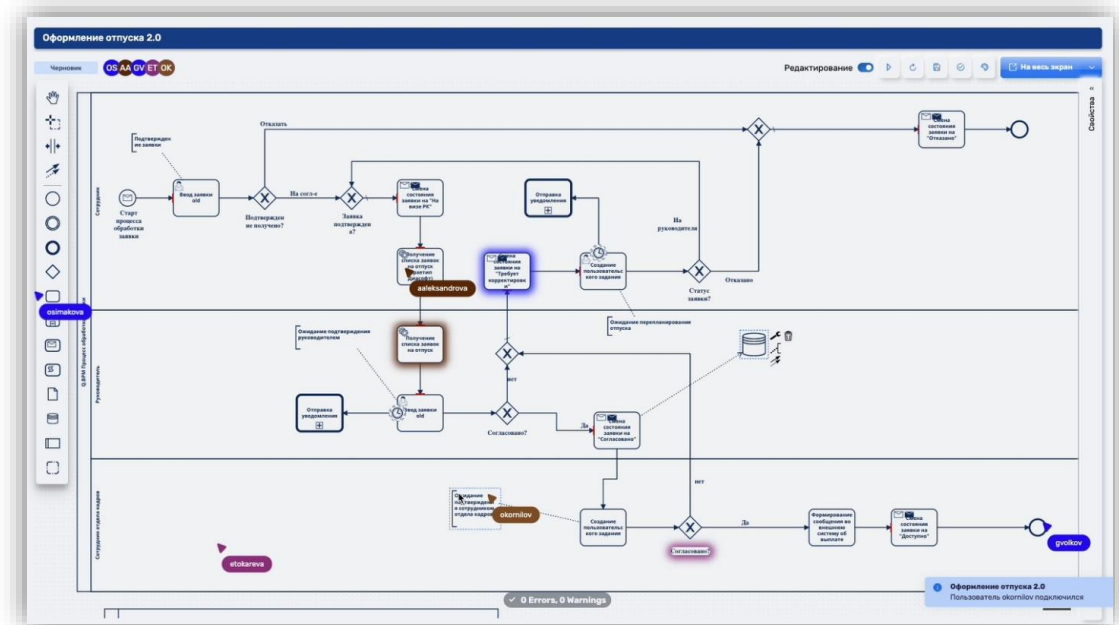
PROCESSES DESIGN CHALLENGES

CHALLENGE: PROCESS APPROVAL IN COMMON BPMS

- During the design process, technologists need to approve business processes, but standard BPM platforms either do not support the approval process or do not allow customizing it.

VS

FLEXIBLE APPROVAL PROCESS IN DIGITAL Q.BPM

- Digital Q.BPM support a special process for approval of diagrams.
- The approval process can be customized to customer needs.
- Assigning of user tasks and user notifications.

CHALLENGE: DESIGNING SIMILAR PROCESSES

- When designing similar or same-type processes, users have to export an existing diagram and import it to a new one, or make a copy of the existing diagram.

VS

TEMPLATES IN DIGITAL Q.BPM

- Digital Q.BPM supports not only copying, but also allows saving new diagrams as **templates**.
- Templates are used to easily design of new business functions.
- Ready templates are stored in the centralized register.
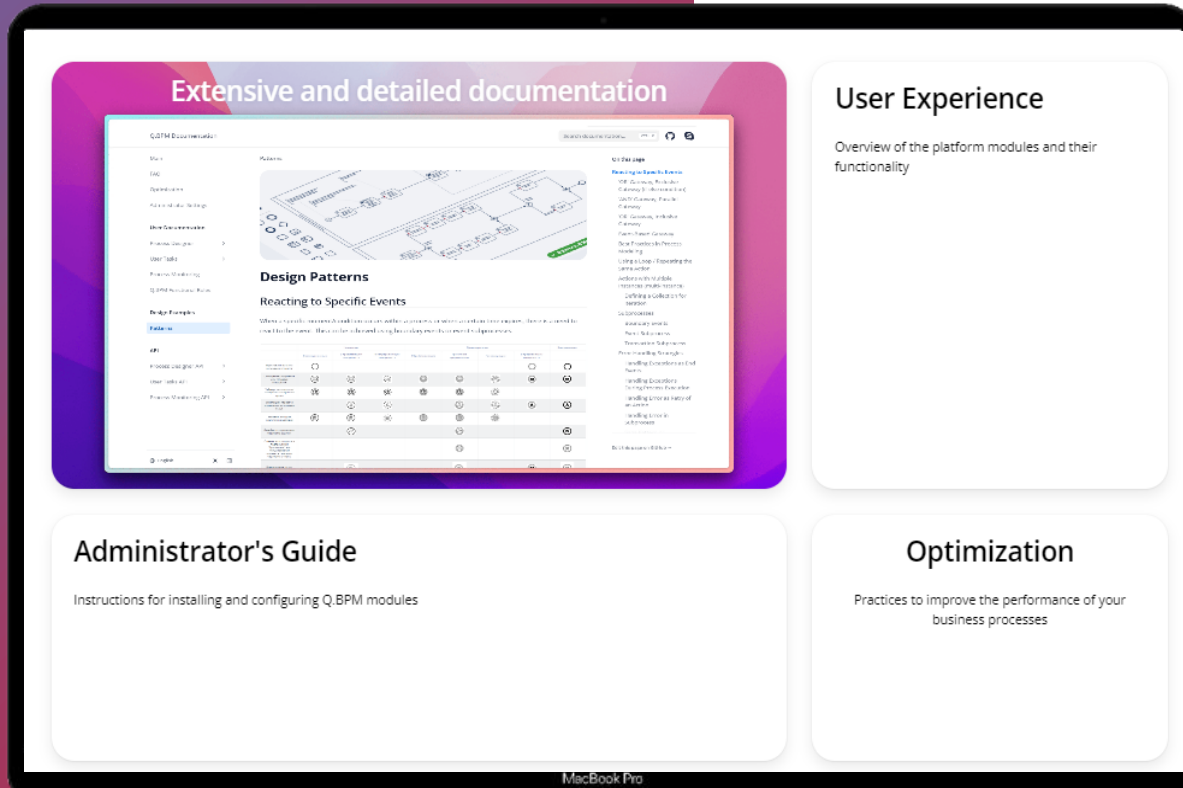
PRODUCT DOCUMENTATION

COMMON WEAKNESSES IN PRODUCT DOCUMENTATION

Technologists need to use best practices and approaches as a reference, but standard BPM systems often lack this support.

90% of BPM documentation can be understood only by an experienced user and refers to technical details of the process design.

VS

DIGITAL Q.BPM DOCUMENTATION

Describes all stages of process design and management.

Comprises description of best practices, use cases and business process design patterns.

Intuitive and easily understandable by both experts and inexperienced users.

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OVERCOMING DEVELOPMENT & INTEGRATION CHALLENGES

INTEGRATION CHALLENGES

Synchronous interactions of IT systems are supported through the REST APIs, and asynchronous interactions use the message broker.

The choice of the approach depends on system requirements and parameters, its response time, reliability and performance.

INTEGRATION CHALLENGES CAUSED BY COMMON BPM SYSTEMS

- Unlike Digital Q.BPM, many BPM platforms do not support event-driven integration with external systems, which causes difficulties for full automation of business processes.

- The use of standard HTTP connectors in popular BPM systems makes it difficult to integrate business processes into the company IT landscape due to authorization issues.

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INTEGRATION CHALLENGES

INTEGRATION CHALLENGES IN COMMON BPMS

VS

SWAGGER CONTRACTS & APIS IN DIGITAL Q.BPM

- During design and automation of business processes, common BPM systems normally use a single shared API to start business processes.
- Calls do not undergo format and logical control which causes errors when integrating automated business processes into the company landscape.

- Digital Q.BPM automatically creates **Swagger contracts** used to start, stop and change the context of a business process.
- Each API refers to a specific process and runs **format and logical control** at the start of the process.

DIGITAL Q.BPM PLUGINS FOR DESIGN AND DEVELOPMENT:

MINI MAP

helps users to better navigate in a long process and quickly move to the specific part, find required objects and switch between objects.

GLOBAL SEARCH IN DIAGRAMS

reduces time for the search for specific process parameters, helps to find all variables matching the search criteria. This feature facilitates search in large diagrams, events or integration flow requests, where the manual search is especially complicated and takes a lot of time.

TOKEN SIMULATION

provides visual representation of process execution and allows users to visually identify potential issues in complex processes

AUTOMATIC CHECK

for design errors and matching to the process notation.

3 OVERCOMING CHALLENGES IN DEBUGGING

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DEBUGGING CHALLENGES

LACK OF EFFECTIVE DEBUGGING TOOLS SLOWS DOWN GO-LIVE OF NEW BUSINESS PROCESSES

- Most BPM platforms provide only a limited range of debugging tools.

- Before testing a diagram, the user needs to publish it into the execution service, and only then run and analyze the respective process. This causes waste of time and resources.
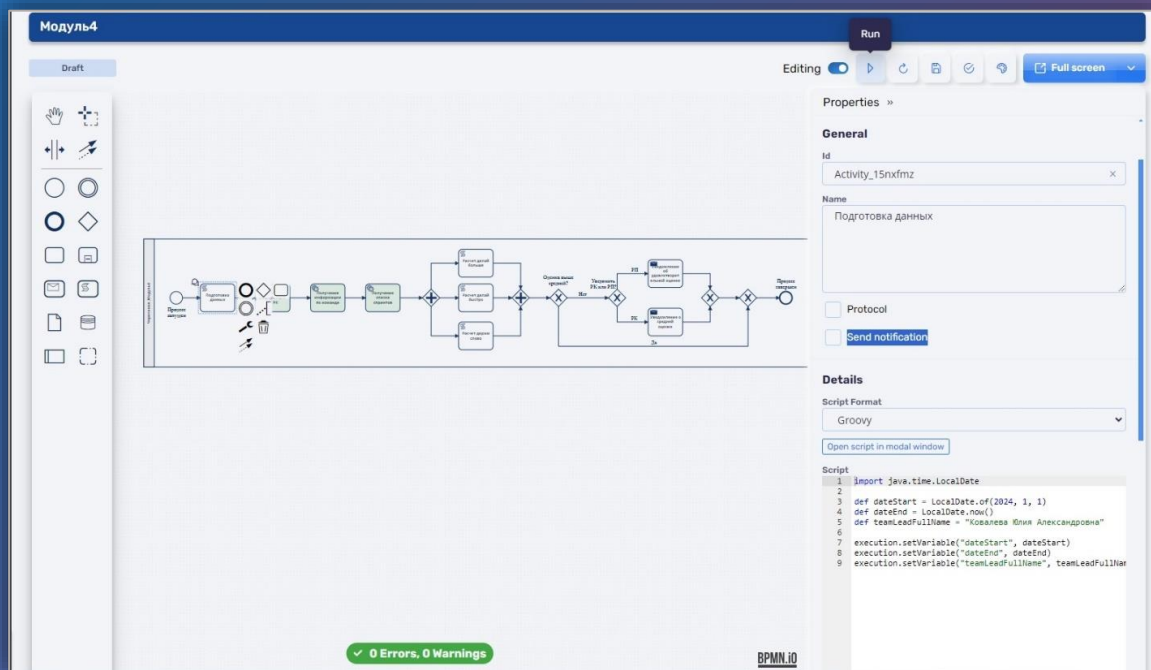

ADVANCED DEBUGGING TOOLS IN DIGITAL Q.BPM

- Digital Q.BPM allows starting processes immediately in the process designer.

- The platform automatically defines available parameters for the start of each business process.

- During debugging, the user can set up values of parameters and save the required number of test data for repeated start of the processes to check how they run in different versions.

STEP-BY-STEP DEBUGGING IN DIGITAL Q.BPM

THE OUT-OF-THE-BOX VERSION OF DIGITAL Q.BPM
SUPPORTS THE STEP-BY-STEP DEBUG MODE:

- Defines nodes where the processes should be stopped.

- Checks node execution parameters.

- Ensures step-by-step execution of the business process logic, including starting and testing of script expressions.

- Maintains the process execution log.

- Provides all information about execution of a business process in the single-screen Digital Q.BPM debug window.

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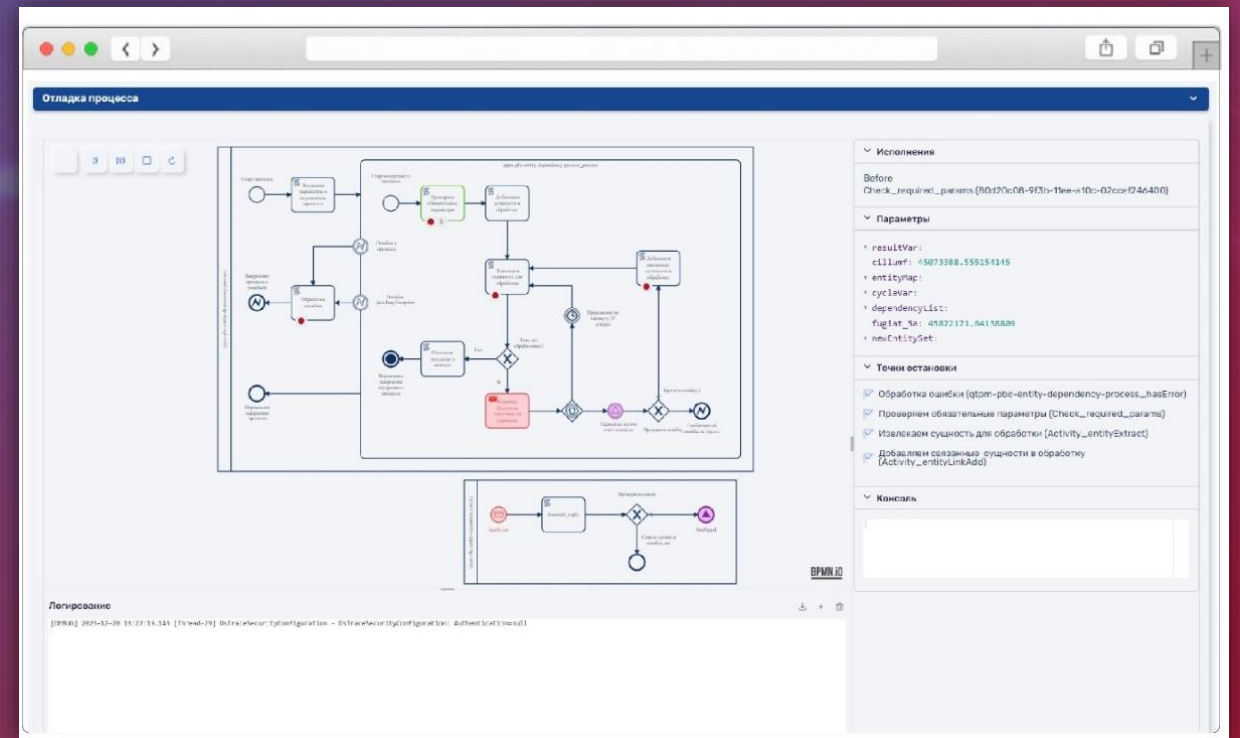
OVERCOMING CHALLENGES DURING TESTING

ACCEPTANCE TESTING

CHALLENGE: WITHOUT SPECIAL ANALYTICAL TOOLS IN THE BPM PLATFORM, THE ANALYSIS OF THE BUSINESS PROCESS MAY BE COMPLICATED AND RESOURCE-INTENSIVE.

The standard debugging process requires the user to complete several steps:

- Publish the business process in the process execution service.

- Start and execute the process (which can run to the end or stop at some stage).

- Understand process steps and their sequence, parameter values.

ANALYTICAL TOOLS IN DIGITAL Q.BPM

- Digital Q.BPM provides a powerful Monitoring System for the overall analysis of business processes.

- The use of these tools during testing and acceptance of the functionality, allows easily checking if the process follows the planned logic and find out the reasons in case of deviations.

ANALYTICAL TOOLS

THE USE OF ANALYTICAL TOOLS DURING TESTING AND ACCEPTANCE OF THE FUNCTIONALITY, ALLOWS THE USER TO EASILY CHECK IF THE PROCESS FOLLOWS THE PLANNED LOGIC AND FIND OUT THE REASONS IN CASE OF DEVIATIONS.
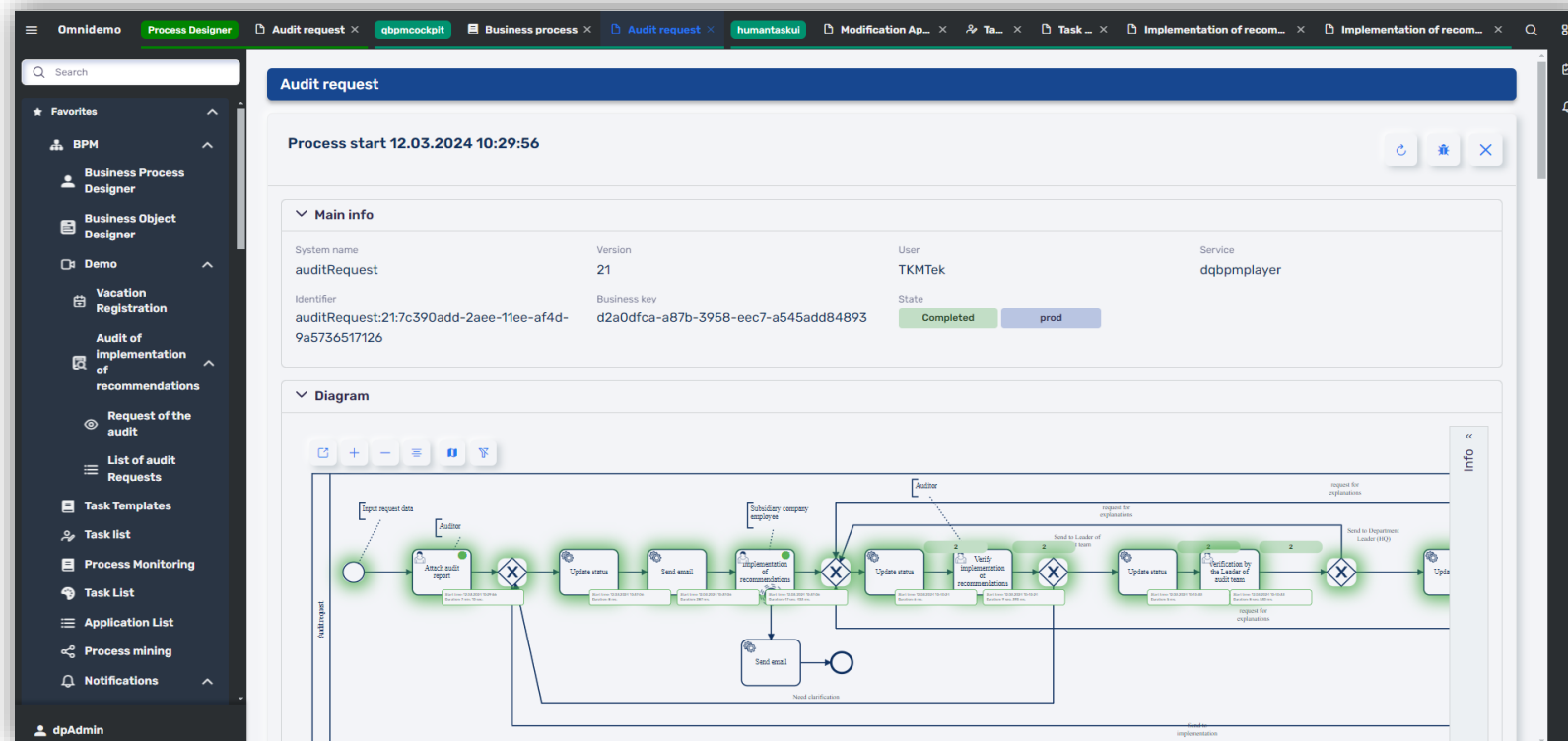
BUSINESS PROCESS ANALYSIS IN DIGITAL Q.BPM

Visual process execution map.

Speed of the entire process and its separate nodes.

Process variables and their values, subprocesses, completed user tasks.

Process incidents.

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OVERCOMING GO-LIVE CHALLENGES

GO-LIVE CHALLENGES

CONVENIENT PROCESS DEPLOYMENT IN DIGITAL Q.BPM

To track process versions and deploy the functionality in the production environment, Digital Q.BPM offers two options:

- Export and import of diagrams, with their further publication with the help of the platform tools.
- The use of DevOps pipeline, which ensures secure versioning and automatic delivery of edited processes to required environments.

MIGRATION TO THE NEW PROCESS VERSION IN COMMON BPMS

- When a new process version is deployed in the production environment, it is often challenging to migrate earlier launched processes to the newly published version.

- Even in technologically advanced BPM platforms, the migration cannot be done without involvement of business process developers who took part in the design of the process.

VS

MIGRATION TO THE NEW PROCESS VERSION IN DIGITAL Q.BPM

- Digital Q.BPM provides a special interface for process migration.

- Digital Q.BPM automatically creates the migration plan and defines the list of process instances to be migrated to the new version.

- With this approach, the involvement of the business process developer is needed only in about 5% cases.

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OVERCOMING CHALLENGES IN SYSTEM USE & MAINTENANCE

MONITORING OF BUSINESS PROCESSES

CHALLENGE: WHEN THE SYSTEM RUNS MULTIPLE PROCESSES, IT NEEDS SPECIAL TOOLS TO MONITOR CORRECT AND INCORRECT OPERATION OF SERVICES.

LACK OF MONITORING TOOLS IN COMMON BPMS

VS

PRE-INTEGRATED MONITORING IN DIGITAL Q.BPM

- Common BPM platforms either do not comprise any monitoring tools or support tools that do not cope with the analysis of specific incidents during the use of the system.

- This makes it challenging to detect and respond to issues in real time and takes a lot of time to analyze an incident.

- Digital Q.BPM provides modern pre-integrated tools for monitoring and management of business processes.

- Even though different processes are executed in different microservices, the platform provides a centralized interface for their monitoring.

- All executed business processes are available in the same environment and are always at hand.

- Execution of each business process and business rule is presented visually – exactly in the same form as the diagram was designed.

MONITORING FUNCTIONS IN DIGITAL Q.BPM

- Search for processes by specific parameters (e.g., by application or contract number).

- Consolidated information on all running business processes.

- List of all published business processes and rules.

- Violation of time limits during execution of business processes and their specific steps.

- Viewing consolidated information on incidents that occur during execution of a business process and details of such incidents.

- Detailed information on execution of a business process.

- Repeated test start of a business process with input parameters of the specific process instance that needs analyzing.

- Detailed information on executed business rules (the decision-making model).

- Migration of business processes.

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MONITORING TOOLS IN DIGITAL Q.BPM

BUSINESS PROCESSES INTERFACE

Viewing consolidated information about published business processes. Sorting and filtering   business processes by name, execution service.

BUSINESS RULES INTERFACE

Viewing consolidated information about published and executed business rules. Sorting and filtering. The unique feature is the use of the Decision Tree that provides details of all execution stages of rules designed in the DMN notation.

STATISTICS INTERFACE

Statistical information on the quality and speed of execution of business processes (the number of business processes currently run in the system, the number of executed business processes, the number of business processes executed with incidents, significant violations of KPIs).

INTERFACE OF BUSINESS PROCESS INSTANCES

Viewing the list of registered, executed or running business processes. Searching for a specific process. Analyzing processes with the help of the Heat Map with support of different analytical dimensions. Detecting process bottlenecks (by execution time, frequency of execution of process blocks, amount of data used at different stages).

BUSINESS PROCESS ANALYTICS

Visual representation of execution of business tasks and performance of separate business units/employees. Monitoring KPIs. Ability to timely take measures for improvement of business processes. Setting up analytical dashboards containing charts and diagrams that clearly illustrate the dynamics of execution of business processes (from different perspectives).

MONITORING OF BUSINESS PROCESSES IN DIGITAL Q.BPM

HEAT MAP

- Process analysis in different analytical dimensions.

- Easy detection of process bottlenecks
  - by execution time,
  - frequency of execution of process blocks,
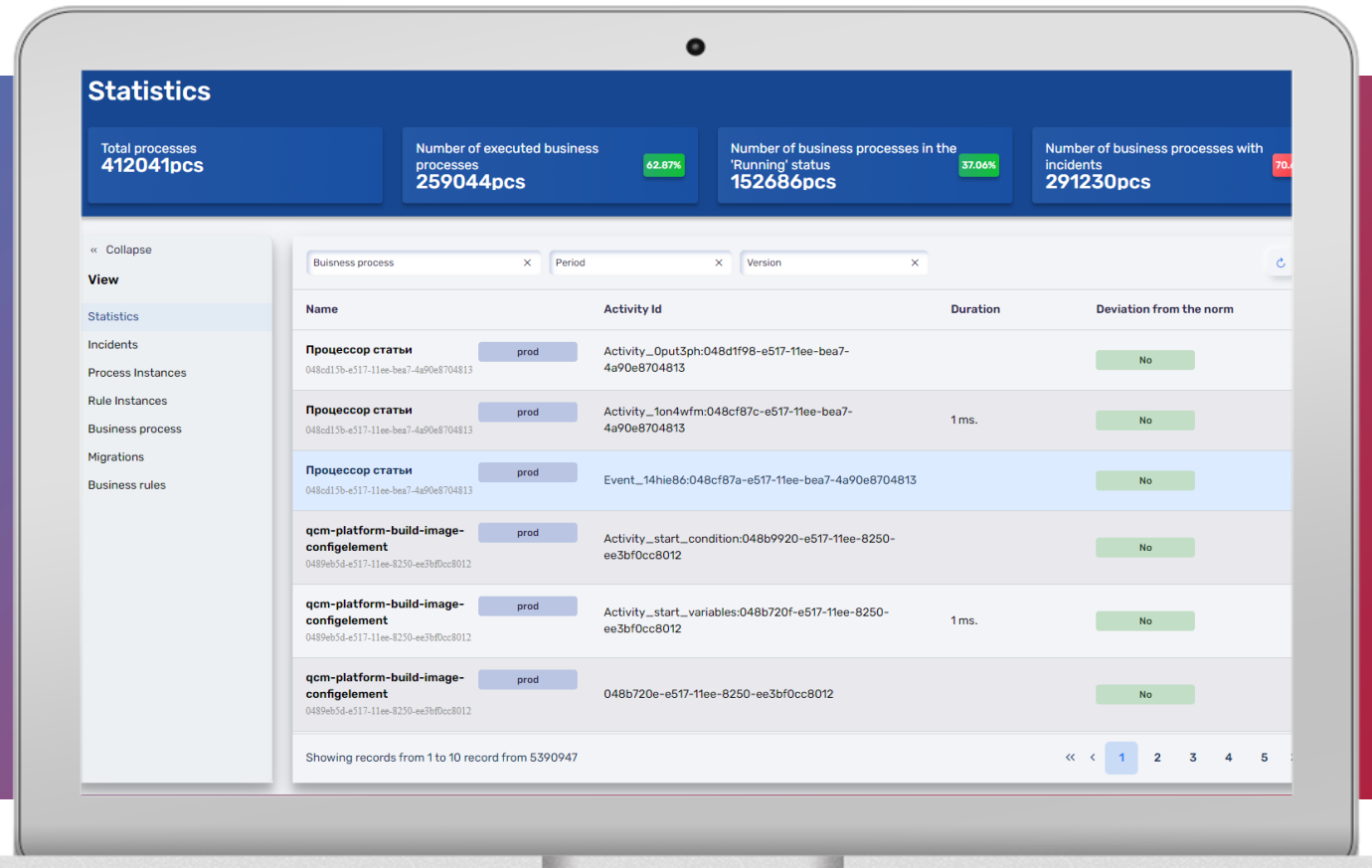 - amount of data used at different stages.

SYSTEM PERFORMANCE AND SCALING

CHALLENGE: SUPPORT OF THE GROWING NUMBER
OF USERS AND BUSINESS PROCESSES

RESTRICTIONS OF THE MONOLITHIC ARCHITECTURE OF COMMON BPMS

VS

DECENTRALIZED PROCESS EXECUTION IN SEPARATE MICROSERVICES IN DIGITAL Q.BPM

- Most BPM platforms with the monolithic architecture use centralized execution of all business processes.

- This approach significantly slows down the system in case of a large number of business processes and can cause limitations in fault tolerance, when a failure of one component can stop the entire system.

- Decentralized execution of business processes in the microservice architecture improves the system reliability and fault tolerance, since the failure of one microservice does not stop other processes in the platform.

- The decentralized execution of business processes enables flexible **horizontal and vertical scaling** of execution of business processes.

- Microservices can be **scaled and developed independently,** which enables more effective and flexible management of business processes, reduces Time-to-Market and streamlines the use of computation resources.

- The microservice architecture guarantees high flexibility, reliability, and efficient business processes management and monitoring in companies with a large number of business processes.

SYSTEM PERFORMANCE AND SCALING

CHALLENGE: SUPPORT OF THE GROWING NUMBER OF USERS AND BUSINESS PROCESSES.

STORAGE BOTTLENECKS IN COMMON BPMS

VS

DEDICATED STORAGE IN DIGITAL Q.BPM

A significant bottleneck of platforms with centralized execution of processes is the storage of the process history in the database of the process execution service, which significantly slows down the entire system.

- Digital Q.BPM stores the history in the dedicated central data storage that does not influence execution of the business process.

- This improves the performance by 30–40%.

### CENTRALIZED MANAGEMENT OF MICROSERVICES IN DIGITAL Q.BPM

- The centralized management and monitoring of all microservices in Digital Q.BPM ensures a centralized representation of states and execution of all business processes.

- It facilitates process control, ensures centralized management of process parameters and settings, allows users to quickly respond to changes and system issues.

THANK YOU

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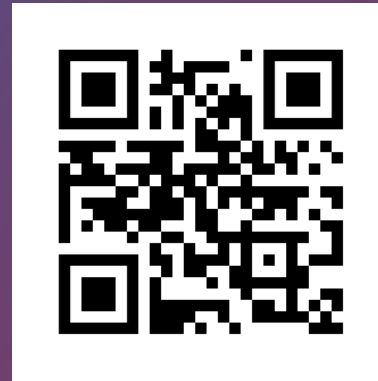
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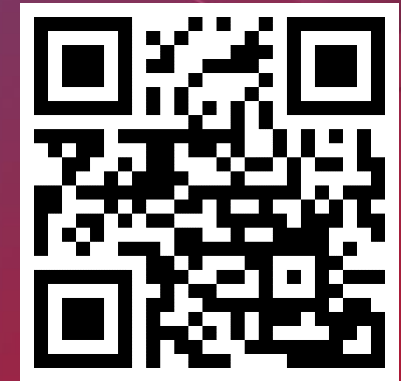
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