



VIZUAL PLATFORM SOLUTION OVERVIEW



ABOUT VIZUAL PLATFORM

About the company

Vizual platform is an innovative company offering a cutting-edge Business Process Automation solution for enterprise customers. Vizual Platform's vision is to enable non-programmers to develop and run an Enterprise transformation Software project. Our mission is to build the best-in-class platform to automate Enterprise software development and execution.

Vizual platform is a Bangalore-based startup with a B2B product offering. It offers a cloud-native SaaS solution that enables no-code/low-code digital transformations for its clients.

About Vizual Platform

'Vizual Platform', offers an industry agnostic, intelligent Business Process Management Suite. The customer doesn't require to write a line of code for modeling and executing the business process, where everything is through a drag and drop user interface. The process engine is 6 times faster than the existing market leader. The process execution engine has an AI-driven process optimizer.

Vizual Platform' automates, transforms, and digitalizes end-to-end processes. It helps build more innovative solutions, deliver a better customer experience, and optimise various functions. It enables businesses to grow into larger organisations as there is no limit to how large an organisation can become if all operations are fully digitised and automated.

The Vizual Platform includes a scalable BPMN 2.0 compliant process automation engine, DMN compliant high-performance rules engine, Visual form builder and Notification messaging framework; all these tools provide best in class performance, without writing a single line of code and superior ease of use through a simple drag and drop.



Benefits of the platform

- The Vizual Platform is a no-code platform used for the digital transformation of enterprises.
- The platform is a highly scalable platform that uses Graph theory-based algorithms. It has 6-8X better performance than competitors in this space.
- The platform has a resource optimizer using AI-based algorithms resulting in lower OPEX for our customers.
- The platform can create Web response forms visually, also has an option to send WhatsApp and Email Notification based on the notification template.
- The platform comes with rich built-in adapters for integrations without writing a single line of code.
- A user can convert a sketch of a business process into apps by merely configuring the process on the platform.

Benefits to Organizations

The automation solution driven by the Vizual platform will drive the following business benefits:

- Faster time to market
- Remove manual errors from data entries
- Enable automated data entries by providing automated interfaces between systems
- Standardise the data input interface and make it scalable
- Automate the data collation and consolidation processes
- Remove the need for any manual checks across files by automating the same
- Provide huge scalability by automating the data processing
- Provide a real-time status for project managers and top management based on the data
- Provide early warnings based on thresholds for cost overruns and delays
- Drive a true data-driven decision making culture
- Minimise operational costs by automating the processes
- Provide an extendable platform that can be used to drive process automation for other processes in the future

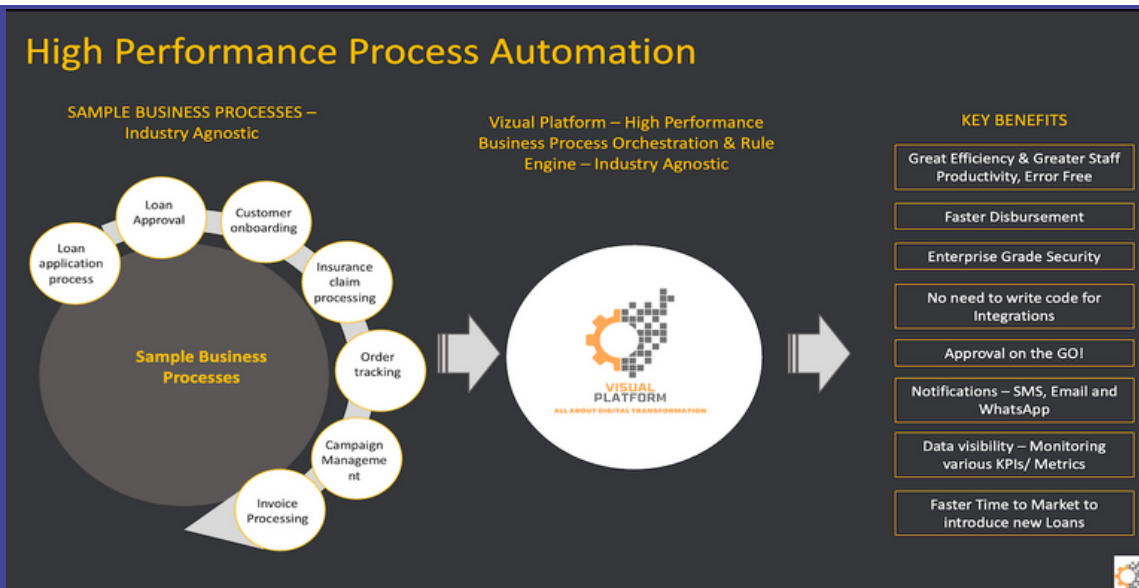


Fig-1: Vizual Platform Overview

The automation solution driven by the Vizual platform will drive the following business benefits:

- **Remove manual errors from data entries**
- **Enable automated data entries by providing automated interfaces between systems**
- **Standardise the data input interface and make it scalable**
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- **Minimise operational costs by automating the processes**
- **Provide an extendable platform that can be used to drive process automation for other processes in the future**

WHY VIZUAL PLATFORM

The platform involves analyzing and optimizing workflows to enhance efficiency, reduce costs, and drive continuous improvement. Vizual Platform is critical for businesses and organizations due to the following reasons:

- **Efficiency and Productivity:** The platform helps businesses streamline their operations by identifying inefficiencies and bottlenecks in processes. By mapping out and optimizing workflows, organizations can eliminate redundant tasks, automate manual processes, and improve overall efficiency. This leads to increased productivity, faster turnaround times, and improved customer satisfaction.
- **Cost Reduction:** By focusing on process optimization, it helps identify unnecessary steps, redundancies, and waste within operations. By eliminating these inefficiencies, organizations can reduce costs associated with labor, resources, and time. It also enables effective resource allocation and budget management, ensuring that resources are utilized optimally.
- **Quality Control:** The platform emphasizes the standardization of processes, which leads to improved quality control. By defining clear guidelines, standard operating procedures, and performance metrics, organizations can ensure consistency in their operations and deliver high-quality products or services to customers. BPM also enables proactive monitoring of processes, allowing for early identification and resolution of quality issues.
- **Flexibility and Agility:** In today's rapidly changing business landscape, organizations need to be agile and adaptable. BPM provides the framework for businesses to quickly respond to market demands, changing customer preferences, and emerging opportunities. By having well-defined processes, organizations can easily modify and adjust workflows to accommodate new requirements or pivot their operations when needed.
- **Compliance and Risk Management:** Many industries are subject to regulatory requirements and compliance standards. It enables organizations to incorporate compliance measures into their processes, ensuring adherence to legal and industry-specific regulations. Moreover, BPM facilitates risk management by identifying and mitigating potential risks associated with business processes, thereby minimizing the likelihood of errors, fraud, or non-compliance.
- **Continuous Improvement:** The platform promotes a culture of continuous improvement within organizations. By monitoring process performance, collecting data, and analyzing key metrics, organizations can identify areas for improvement and implement changes accordingly. This iterative approach helps drive innovation, operational excellence, and the ability to stay ahead of competitors.

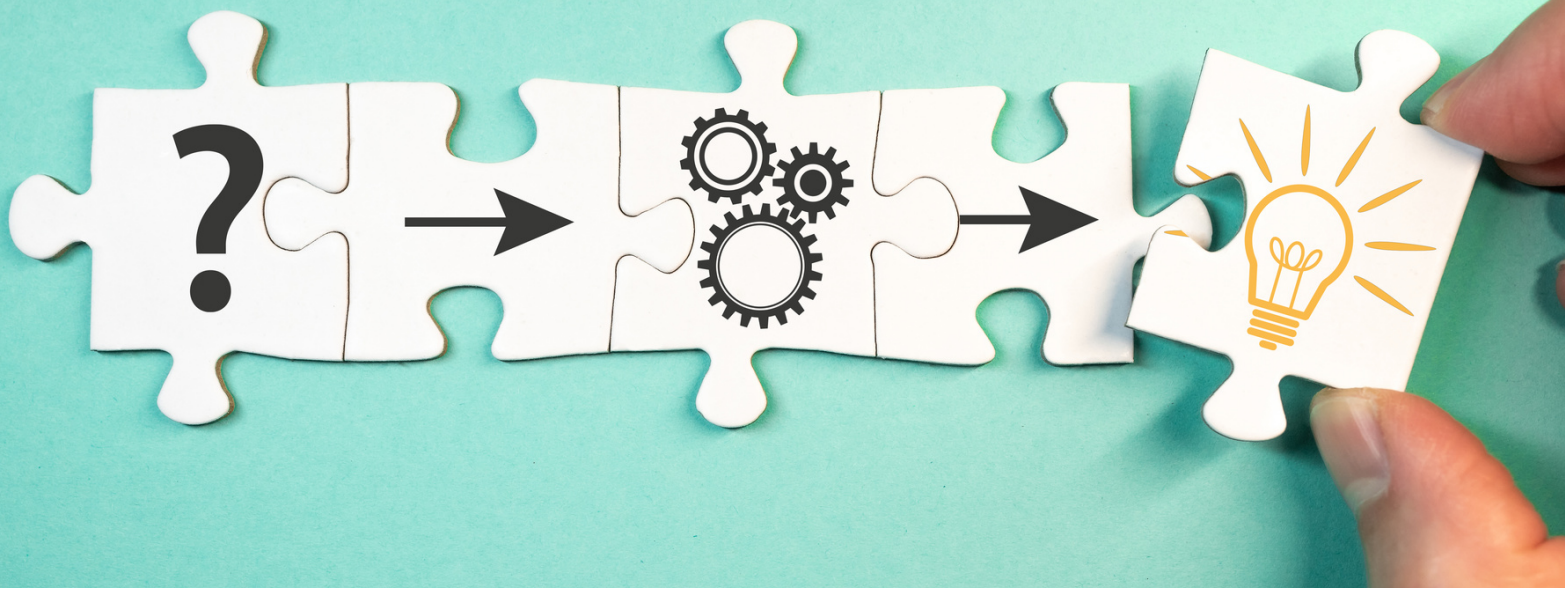
In conclusion, Business Process Management is critical for businesses and organizations as it enables improved efficiency, cost reduction, quality control, flexibility, compliance, and continuous improvement. By focusing on optimizing processes, organizations can enhance their overall performance, achieve operational excellence, and gain a competitive edge in the market.

SOLUTION OVERVIEW

It's pretty simple to automate workflows through 'Vizual Platform.' 'Vizual Platform' lifts your organisational efficiency and provides seamless customer experience and profitability.

Key highlights of Vizual Platform

- User Management with Multi-Tenant support
- Easy to use Modeller BPMN, DMN, Forms
- BPMN Engine/ Business Process Execution Engine - BPMN 2.0 standard - 6X faster
- DMN / DMN Rule Engine - DMN standard -6X faster
- Event Process/ Event Management
- Monitoring - Graphical view for BPMN Monitoring, Heatmaps
- Rich Functionalities - Parallel Processing, User Task, Call Activity
- FEEL Expression support
- Built-in Adapters - REST, SOAP, JavaScript, Mongo, SQL - Oracle, MySQL, etc.
- Notification Engine - SMS, Email and WhatsApp
- Query Execution - Mongo and any SQL
- Multi-Cloud, Hybrid deployment -Containerized



TECHNICAL ARCHITECTURE

Vizual Platform follows -

- Event-based Architecture
- In Memory execution for a high performance

The platform is based on the latest technology stack. Here is the high-level overview of the technology stack -

- SSO - KeyCloak
- Database - Mongo
- Engine - Springboot
- Frontend - React
- Facade Layer - Node
- Algorithms - ML, Graph Algorithms
- Execution - In-memory
- Logging, Reporting - Log4j, ELK, Grafana
- Notifications - Springboot, Kafka

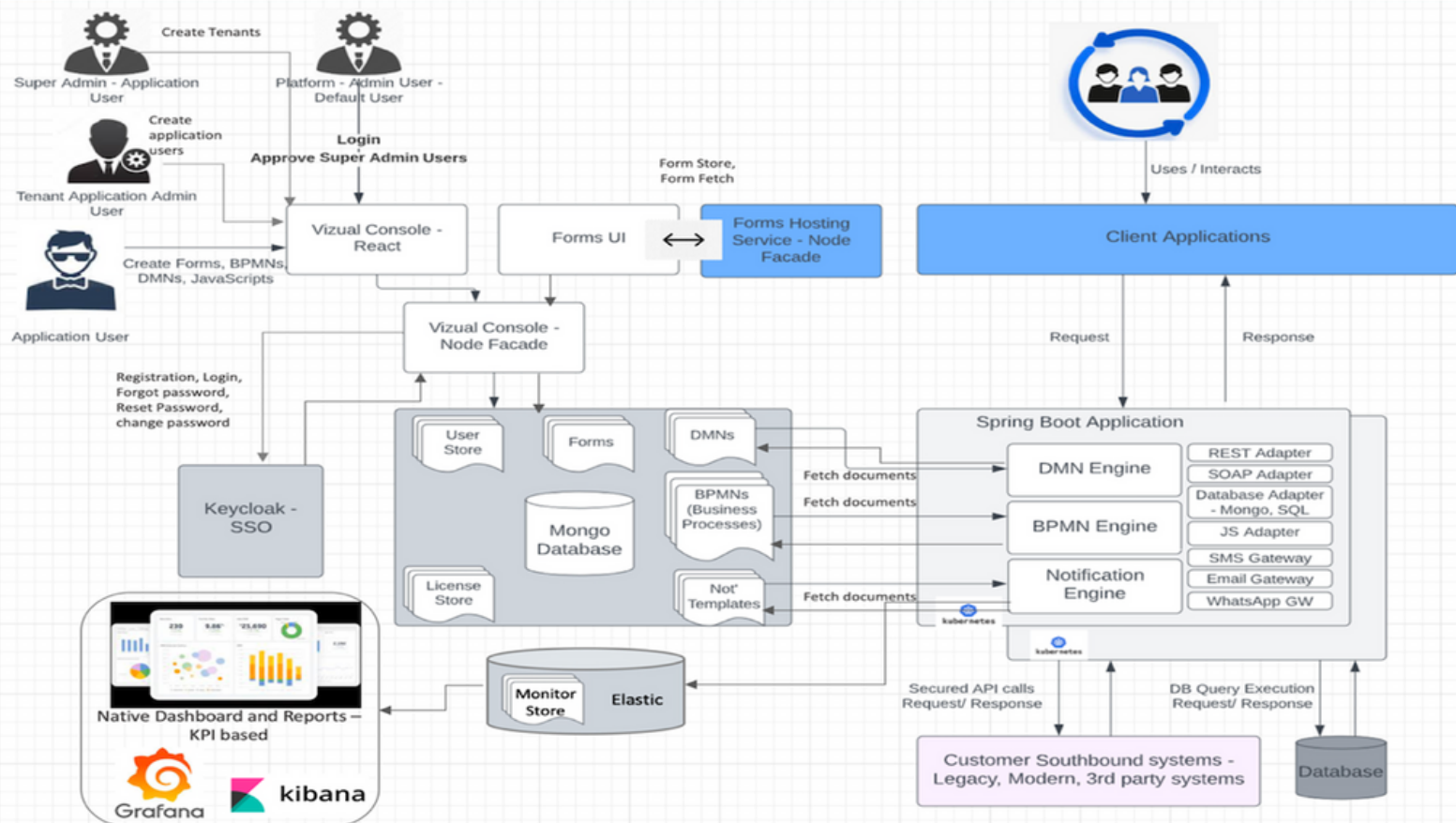


Fig-2: Vizual Platform Technical Architecture

SAMPLE SOLUTION AREAS



**1. Manage
Purchase Order
(PO)**



**3. Manage
Purchase Request
(PR)**



**2. Project
Management**



**4. Loan
Application
Processing**

MANAGE PURCHASE ORDER

Challenges: Scattered processes, data silos, and manual follow-ups make the organisation and its process cumbersome and inefficient.

Solution: 'Vizual Platform' offers a 'Vendor Invoice Management' solution. The platform optimises and streamlines end-to-end Account Payables processes also known as Vendor Invoice Management process.

The vendor invoice management process gets initiated when a vendor submits the invoice either over email or through a vendor invoice submission web portal/ form.
purchase order

The Process

- **Converts PDF invoice into JSON format**
- **Uploads Invoice details into Invoice collection**
- **Validate vendor details to make sure that the invoice is coming from the genuine vendor**
- **Validate the invoice details for correctness**
- **Check whether the invoice is duplicate**
- **Based on the validation, the process invokes Decision Rule to check any exceptions**
- **If there are any exceptions, notify the vendor about invoice rejections and request a resubmission**
- **If validations are successful, send invoice summary to Invoice Manager for approval**
- **Approval of the invoice sends notifications to appropriate stakeholders and**
- **Triggers Payment process per Payment Terms & Conditions**



You can visualise the real-time status of the process execution. Various Statistics and reports about how many invoices were processed and the percentage of success and failure are available out of the box.

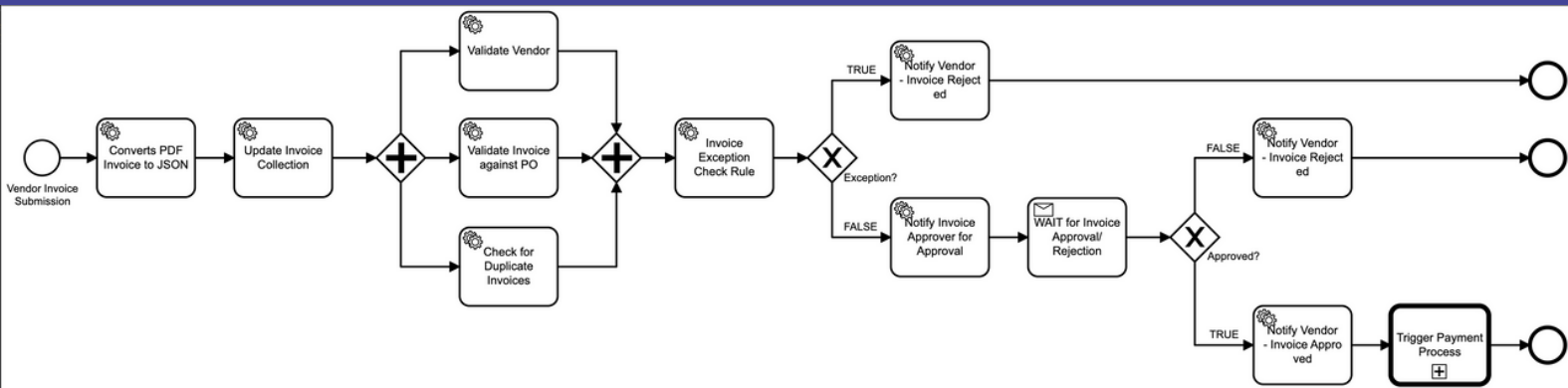
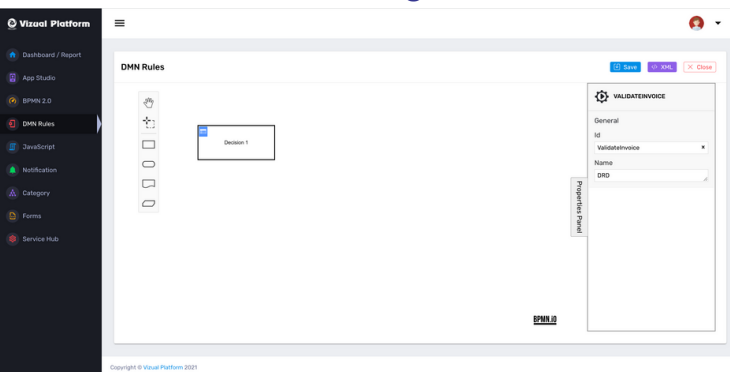


fig-3: Account Payable process of Vizual Platform



When	And	And	Then	Annotations
validateVendor	notDuplicateInvoice	verifyInvoiceWithPO	Exception	
1 true	true	true	false	Invoice can be processed, subject to approval
2 true	true	false	true	Invoice exception
3 true	false	true	true	Invoice exception
4 true	false	false	true	Invoice exception
5 false	true	true	true	Invoice exception
6 false	false	false	true	Invoice exception
7 false	false	true		Invoice exception

The Key Benefits

- Minimize invoice processing time and optimized efficiency
- Avoids Risks
- Facilitates Regulatory compliance
- Increases ROI and saves money
- Improves vendor relationship
- Reduce cycle times
- Increase productivity
- Reduce Errors
- Can process 100s of invoices in minutes
- The whole system is configurable and extensible

Challenges: The project Accountant who is responsible for creating and managing project-related details finds it challenging to keep track of all the project details. These challenges result in poor efficiency, create data silos and also result in poor productivity.

Solution: The processes are divided into the following categories: project, time and expense, billing and chargeback, supporting, and overhead (not project-specific) related.

The project management can be broken into -

- 1) Project Initiation
- 2) Project Planning including Requirement management
- 3) Project Plan Approval
- 4) Project Commitment
- 5) Scope Change
- 6) Milestone Review
- 7) Stakeholder Review
- 8) Risk Assessment

One of the processes is articulated using Vizual Platform.

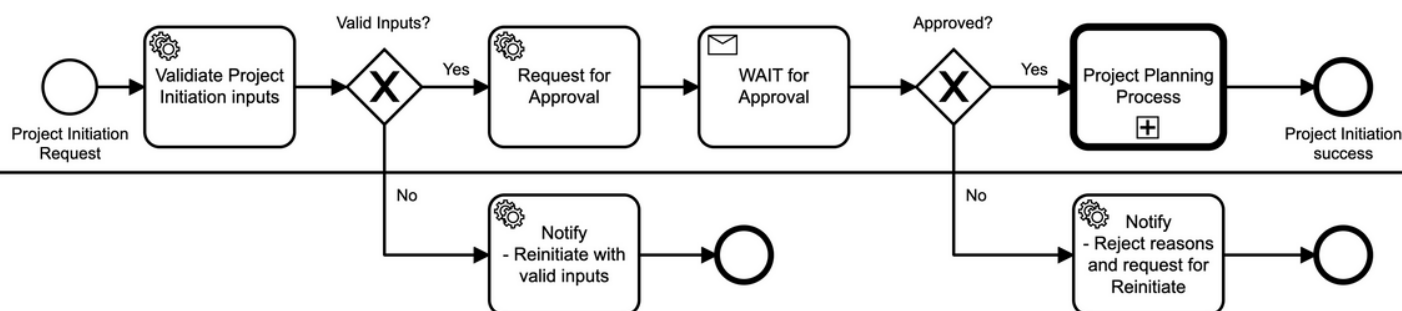


Fig-4: Sample Project Management process using Vizual Platform

The Key Benefits

- Process automation enables executives to securely collaborate in real-time with all stakeholders including operational, project and financial managers, and to preemptively manage any potential situations.
- Business process management has a direct impact on managing and delivering projects. Well-defined, centralised and institutionalised work processes significantly improve the likelihood that a project is completed on time, meets quality expectations, and is delivered on budget.
- The solution will enable her to get a complete overview of the project, tasks to be done and get notified when the projects do not meet critical criteria. The solution shows project performance based on time spent by staff, payroll costs per hour and other expenses. Dashboards allow Janice to track the performance and update management.



MANAGE PURCHASE REQUEST

Challenges: With a manual procurement process, there is a lot of room for error. Oftentimes, invoices arrive without context. No one approved the purchase – from legal to IT security, to finance. There’s no one to hold accountable for any aspect of the purchase.

Even when a company makes an effort to put forth a specific policy concerning how company purchases should be made, there’s no guarantee that employees will follow it.

Solution: Configurable and Extensible business process management solution from 'Vizual Platform' can be used to digitize and transform various business processes. There can be human intervention as part of the business process. The built-in notification service notifies different stakeholders at various stages of the process, it also lets you automate the approval process.

Process articulated using Vizual Platform.

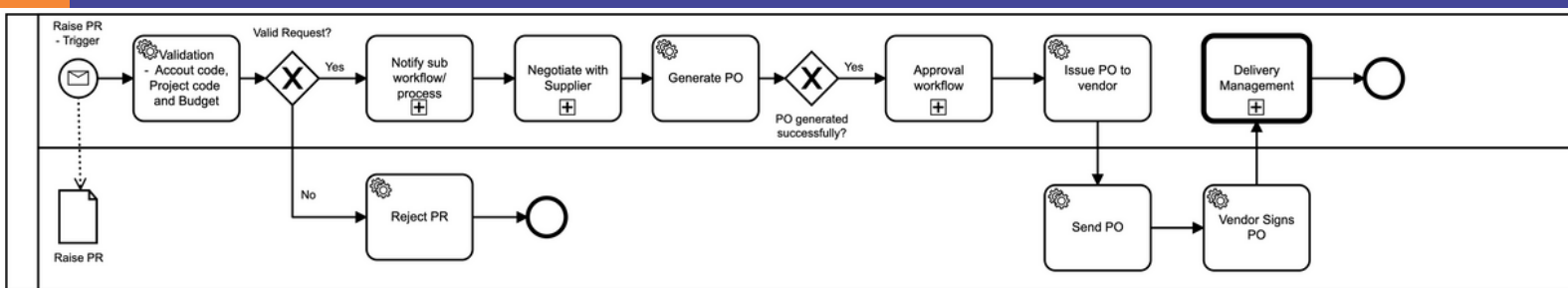


Fig-5: Sample Purchase Request process using Vizual Platform

The Key Benefits

- Minimise PR processing
- Avoids Risks
- Facilitates Regulatory compliance
- Increases ROI and saves money
- Improves vendor relationship
- Improves efficiency
- Increase productivity
- Error free

Loan Application Processing

Challenges: Scattered processes, data silos, manual follow-ups make the process very cumbersome and inefficient. Longer time to process the loans, no accountability result in revenue loss.

Solution:

- Underlying approach to overcome all the above challenges, is a seamless process and the ability to adapt to changes quickly.
- Our solution, 'Vizual Platform' will be used to automate / transform/ digitalize Loan application processing and approval.
- Process automation enabled by 'Vizual Platform' will improve the following key KPIs at Banks/ Financial services organization -
 - Decision to close loan time cycle
 - Average origination value
 - Application approval rate
 - Pull through rate
 - Time to market new smart lending products

Key benefits of our solution:

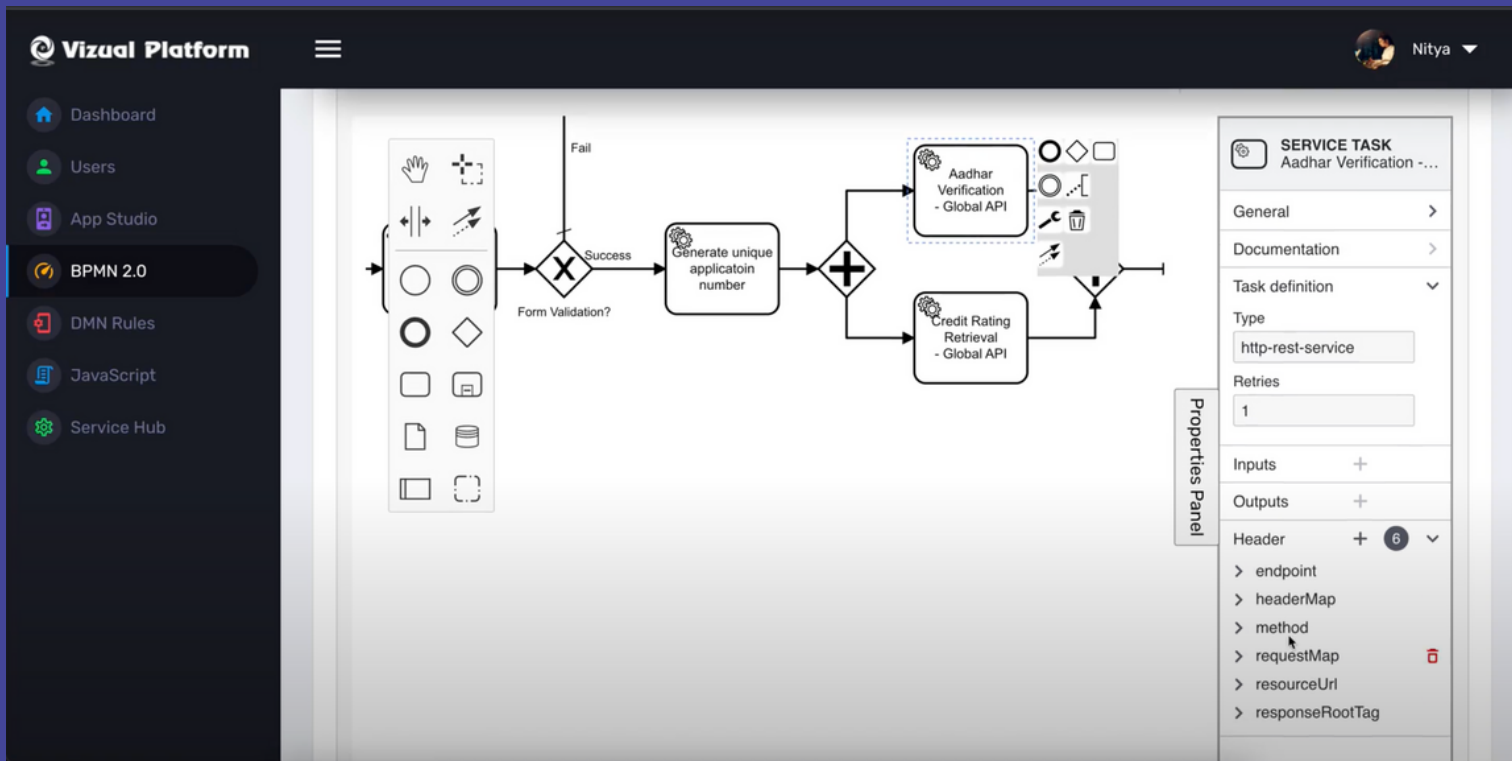
- Increased Revenue
- Improved customer satisfaction
- Great Efficiency
- Greater Staff Productivity & Error Free

Solution

We plan to show the live demo of Vendor Invoice Processing also known as the Account Payable process part of the Manage Purchase Request process. The business process gets triggered when a vendor submits an invoice. The vendor invoice submission form is also designed by the Form designer and rendering component of Vizual Platform.

The Business Process

- The customer applies for loan by filling a a Loan application form
- The application triggers an automated Lending Business Process of the Vizual Platform. A new transaction gets created.
- The application validates the input
- Invokes 3rd party APIs for retrieving credit score and identity validations
- The Business identifies the suitable % of loan based on credit
- The final eligibility amount is calculated based on various criteria
- A report will be sent to Credit Manager for approval
- Once approval, a notification gets triggered to customer
- Upon consent, loan disbursement gets triggered



View DRD

loanPercentage Hit Policy: Unique

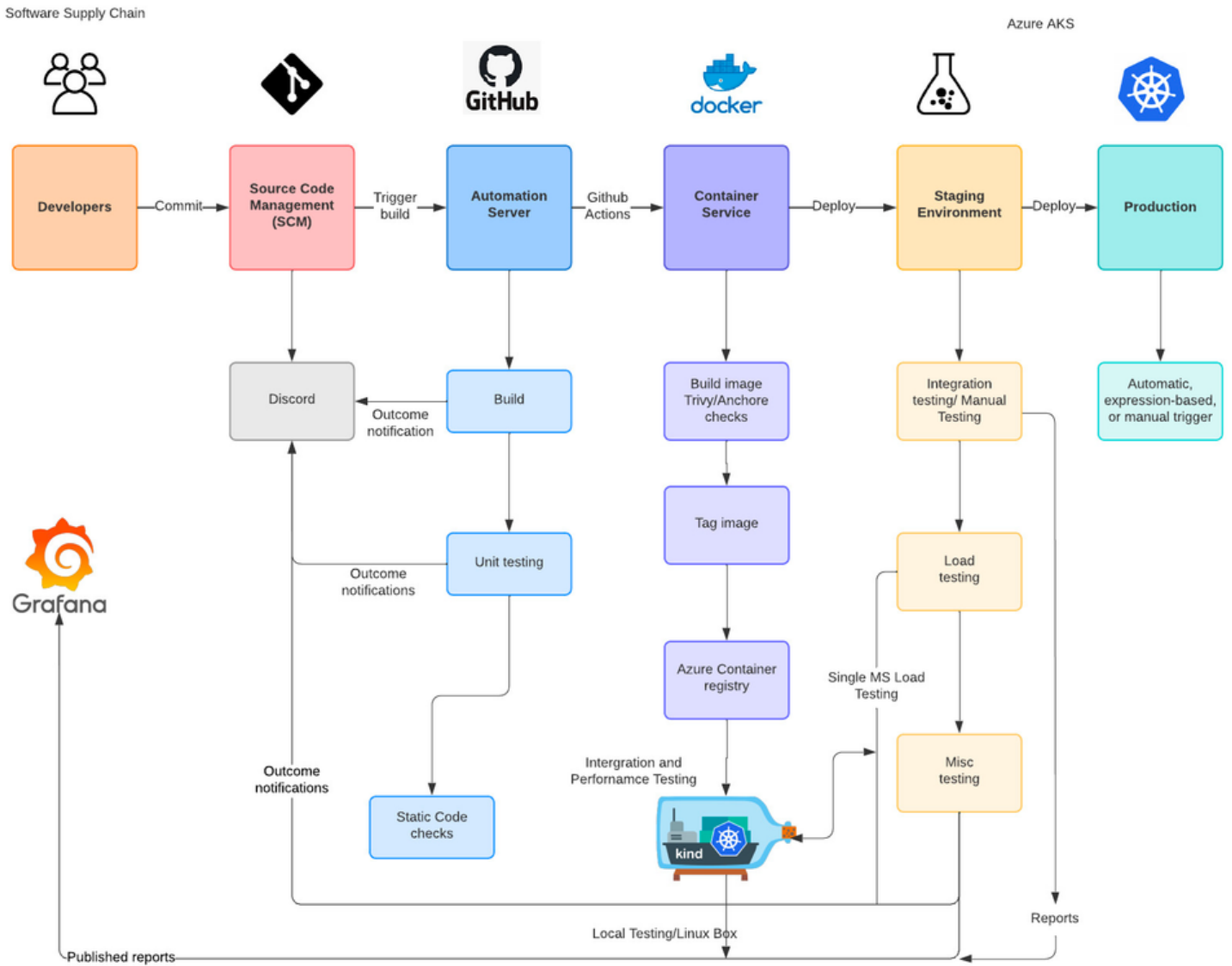
	When	And	Then	
	aadharCheck	creditScore	percentageEligible	
	boolean	integer	integer	
1	true	[300..549]	25	Poor Credit Score, Eligib
2	true	[550..649]	50	Poor Credit Score, Eligib
3	true	[650..749]	75	Poor Credit Score, Eligib

Fig-6: Loan applicaiton processing and approval business process using Vizual Platform

DEPLOYMENT ARCHITECTURE

Vizual Platform supports hybrid multi cloud deployment. It's dockerized and can be deployed on a Kubernetes cluster.

CI/CD pipeline example



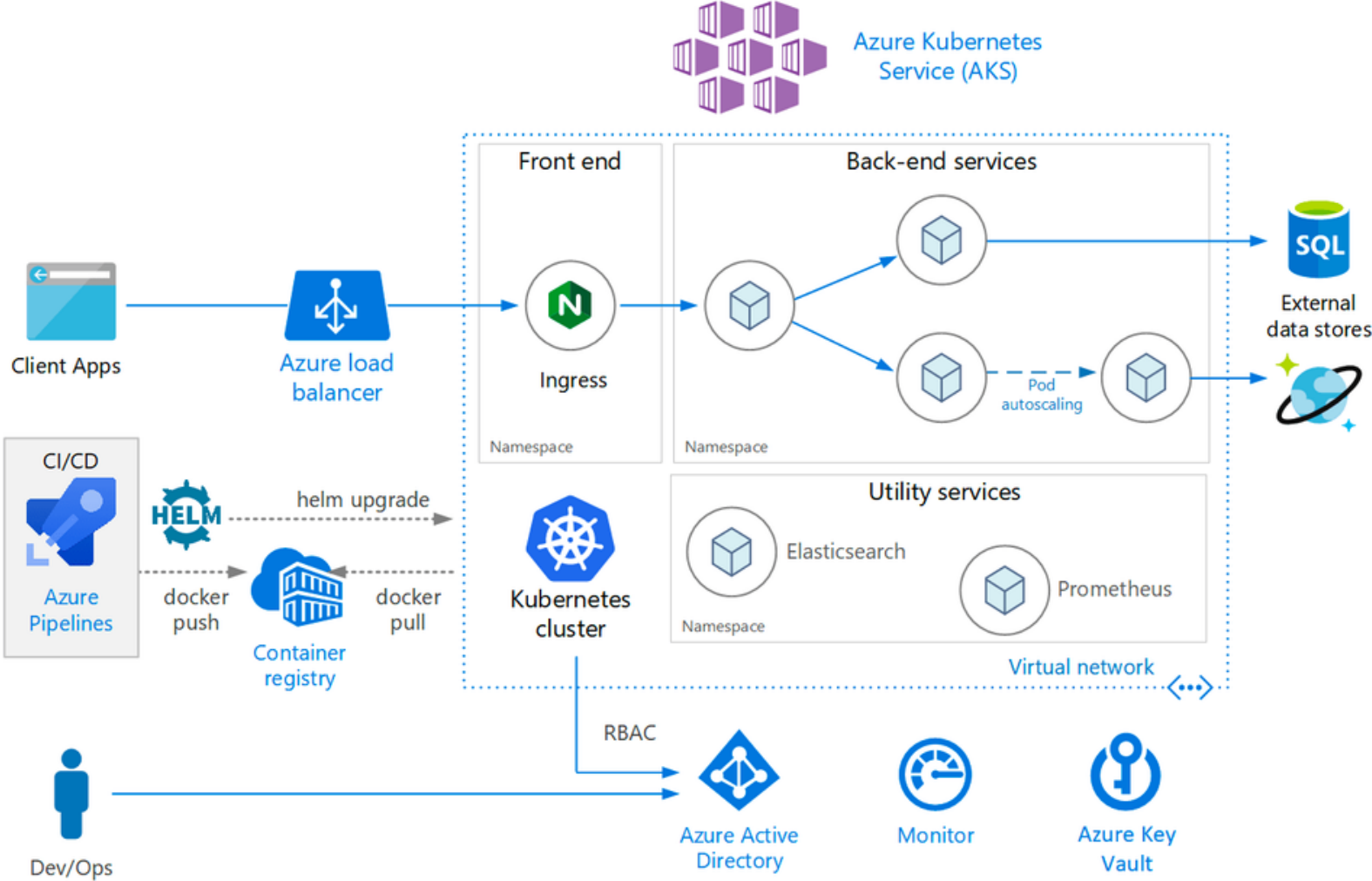


Fig-7: Deployment Architecture of Vizual Platform

NON FUNCTIONAL FEATURES

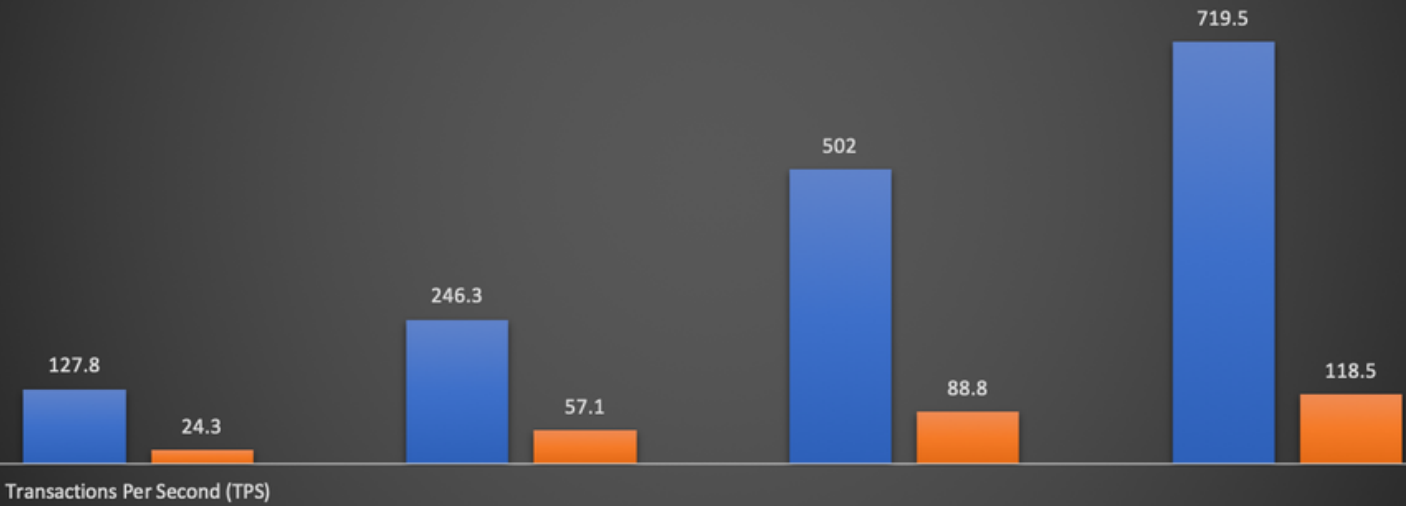
- Enterprise-Grade Security
- Sonar-Qube compliance
- Harbor Trivy compliance
- Data is encrypted
- OAUTH2 and JMT Token support
- HTTPS
- User Management using Keycloak SSO



PERFORMANCE AND SCALABILITY

TPS Comparison

■ Vizual Platform ■ Industry Leading Solution



Average Response Time in ms

■ Vizual Platform ■ Industry Leading Solution

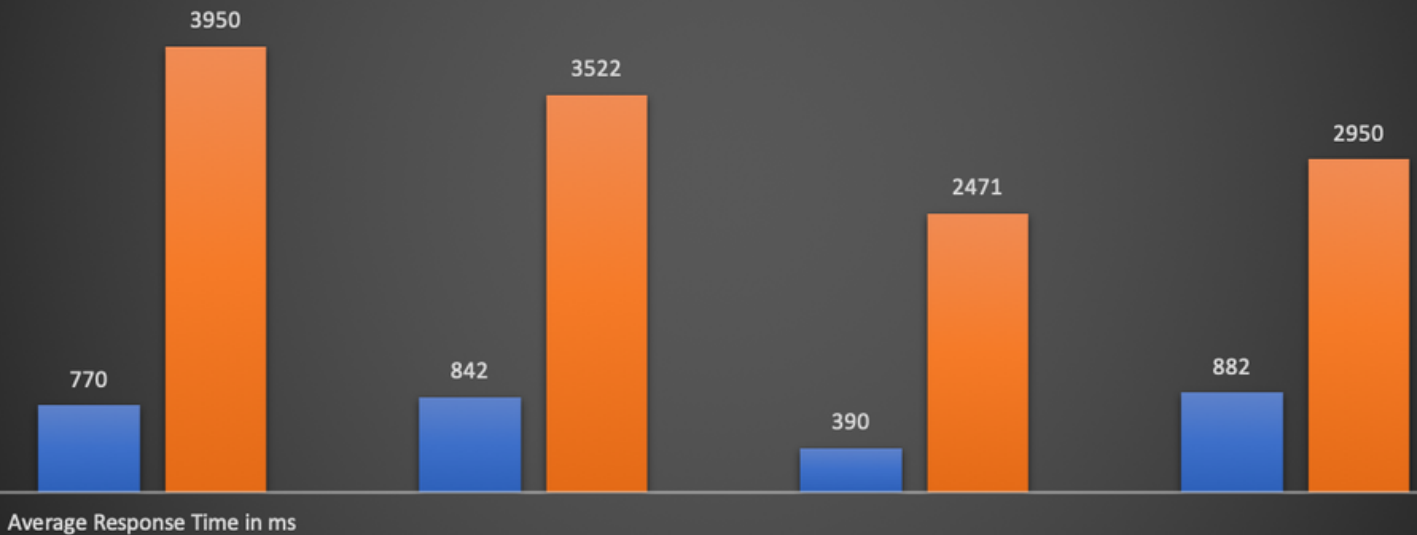


FIG-8: PERFORMANCE SNAPSHOT OF VIZUAL PLATFORM

APPROACH

WE CAN START THE PROJECT WITH AUTOMATING OR DIGITISING ONE OF THE PROCSSSES. GIVEN THAT VIZUAL PLATFORM IS A NO-CODE/ LOW CODE PLATFORM AND INTEGRATIONS ARE DONE THROUGH MERE CONFIGURATIONS, THE OTHER PROCESSES CAN BE EASILY EXTENDED FOR TRANSFORMATIONS.

VIZUAL PLATFORM FEATURES & CAPABILITIES

1. DASHBOARD AND REPORTS

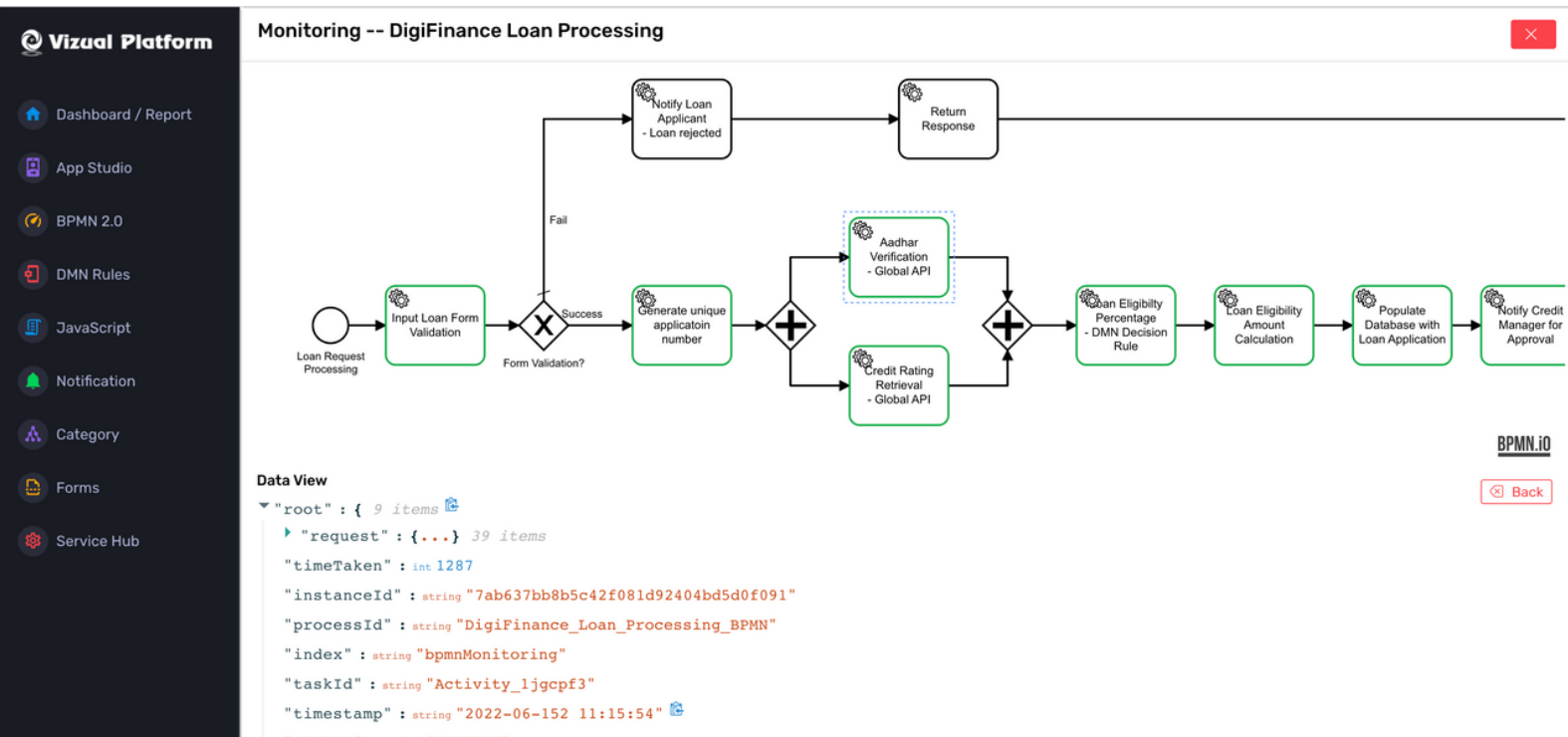


FIG-9: REAL-TIME BUSINESS PROCESS MONITORING USING VIZUAL PLATFORM

VIZUAL PLATFORM' SUPPORTS CONTINUOUS PROCESS IMPROVEMENT BY PROVIDING TRANSPARENCY INTO AUTOMATED WORKFLOWS. BUSINESS-FRIENDLY REPORTS AND DASHBOARDS AS WELL AS ALERTS HELP YOU TO IDENTIFY PROCESS BOTTLENECKS AND IMPROVE YOUR OVERALL END-TO-END PROCESS. IT LETS SEE THE REAL-TIME STATUS OF INDIVIDUAL INSTANCES OR TRANSACTIONS OF BUSINESS PROCESSES.

2. BUSINESS VALIDATION RULES

BUSINESS ANALYSTS CAN MODEL THE RULES THAT LEAD TO A DECISION IN EASY TO READ TABLES, AND THOSE TABLES CAN BE EXECUTED DIRECTLY BY A DECISION ENGINE.

HERE ARE THE TWO KEY ASPECTS OF DMN DECISION RULE ENGINE:

- **Standard - DMN is not owned by a certain enterprise but by an institution (OMG), which is already established through other worldwide standards, e.g., BPMN and UML. The DMN standard is supported by several software products**
- **Direct Execution - In DMN, decisions can be modeled and executed using the same language. Business analysts can model the rules that lead to a decision in easy-to-read tables, and those tables can be executed directly by a decision engine. This minimises the risk of misunderstandings between business analysts and developers, and it even allows rapid changes in production.**

View DRD

loanPercentage		Hit Policy: Unique			
When	And	Then	Annotations		
aadharCheck	creditScore	percentageEligible			
boolean	integer	integer			
1	true	[300..549]	25	Poor Credit Score, Eligible for 25% of the loan	
2	true	[550..649]	50	Poor Credit Score, Eligible for 50% of the loan	
3	true	[650..749]	75	Poor Credit Score, Eligible for 75% of the loan	
4	true	>=750	100	Poor Credit Score, Eligible for 100% of the loan	
5	false	-	0	Aadhar verificaiton is false, Not eligible for loan	
+	-	-			

FIG-10: DMN OR DECISION RULES OF VIZUAL PLATFORM

3. BUSINESS PROCESS MODELLING AND EXECUTION

VIZUAL PLATFORM' LETS YOU CREATE BUSINESS PROCESSES USING DRAG AND DROP USER INTERFACE. FOLLOWING ARE THE KEY BPMN 2.0 CONSTRUCTS SUPPORTED BY 'VIZUAL PLATFORM'.

- START EVENTS
- SERVICE TASKS - REST, SOAP, JAVASCRIPT AND USER TASK
- INTERMEDIATE CATCH EVENTS
- GATEWAYS
- MESSAGE AND TIMER BOUNDARY EVENTS
- EMBEDDED SUBPROCESS
- DMNS

'VIZUAL PLATFORM' PROVIDES VARIOUS BUILT-IN ADAPTERS/ INTERFACES, IT CAN BE EXTENDED FURTHER. SOME OF THEM ARE LISTED BELOW.

- HTTP REST
- HTTP SOAP
- JAVA SCRIPT

DATABASE MONGO QUERIES EXECUTION

ALL THESE INTEGRATIONS ARE DONE THROUGH MERE CONFIGURATIONS, WITHOUT WRITING A LINE OF CODE.

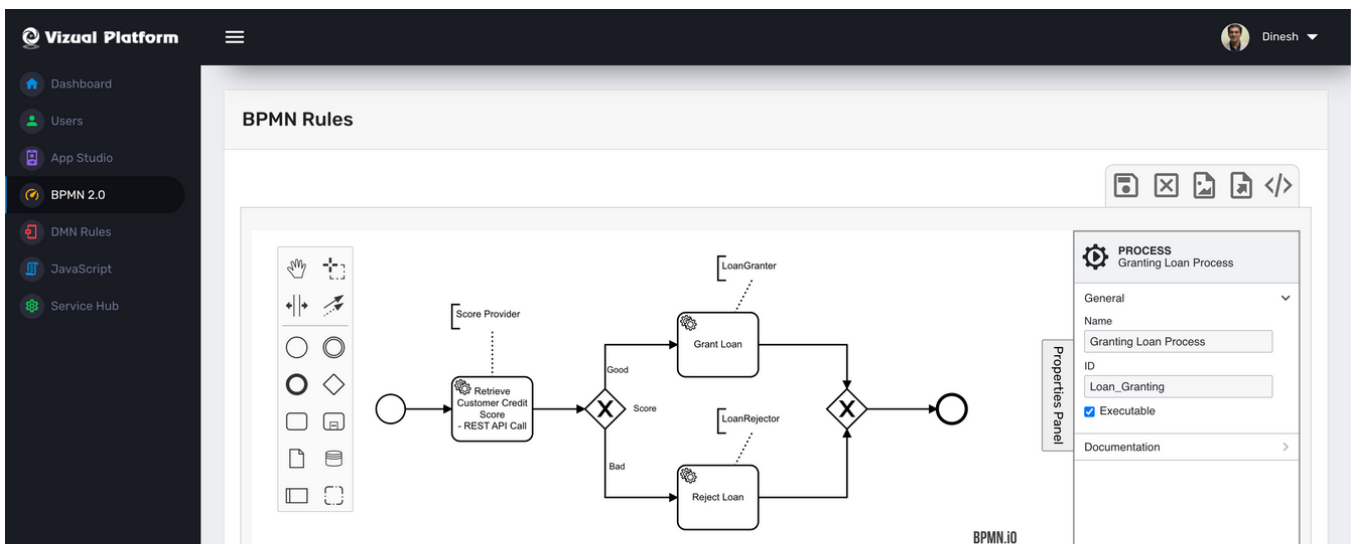


FIG-11: BUSINESS PROCESSING MODELLING USING VIZUAL PLATFORM

4. NOTIFICATION ENGINE

VIZUAL PLATFORM' OFFERS A NOTIFICATION ENGINE. THE NOTIFICATION ENGINE LETS YOU SEND SMS, EMAIL AND WHATSAPP NOTIFICATIONS THROUGH CONFIGURATIONS AND WITHOUT WRITING ANY CODE.

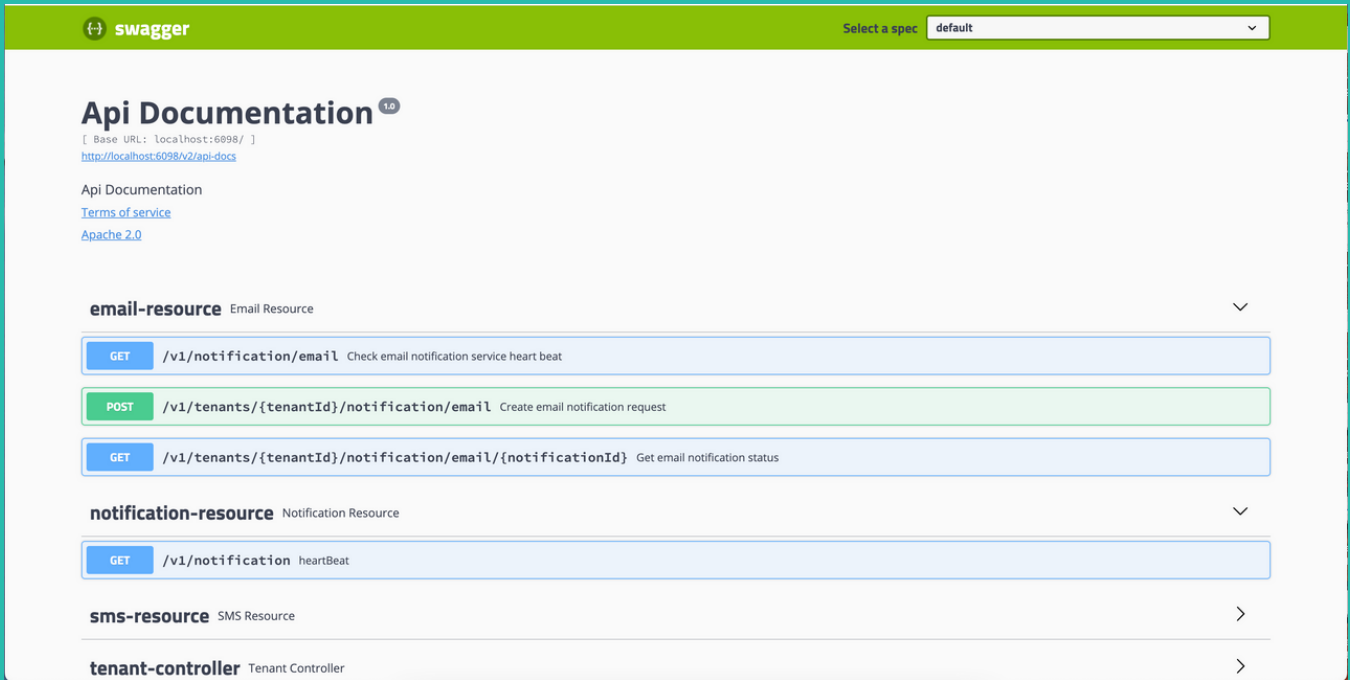


FIG-12: NOTIFICATION SERVICE REST API SPECIFICATION OF VIZUAL PLATFORM

5. WEB APP FRONT-END CREATION/ VISUAL RESPONSIVE WEB FORM BUILDER

VIZUAL PLATFORM' LETS YOU CREATE REACT WEB FORMS USING DRAG AND DROP USER INTERFACE. WE ALSO SUPPORT HOSTING THE REACT FORMS. THESE HOSTED FORMS CAN BE A NEW WEB APP OR IT CAN BE EMBEDDED PART OF THE EXISTING WEB APPS. YOU CAN APPLY THE CSS / BRANDING ON THE CONFIGURED FORM.

THIS IS HOW THE HOSTED FORM LOOKS LIKE:

The image shows a web form titled 'Register Today' with the instruction 'Fill in the data below.'. The form is set against a dark blue background. It contains several input fields: 'Full Name' (text input), 'Email Id' (text input), 'DOB' (text input with a calendar icon and placeholder 'dd-mm-yyyy'), 'Loan Required' (text input), 'Employment' (radio buttons for 'Salaried' and 'Self Employed'), 'Net Pay' (text input), 'Adhar Card' (file upload with 'Choose File' and 'No file chosen' buttons), 'Pan Card' (file upload with 'Choose File' and 'No file chosen' buttons), and 'Payslip' (file upload with 'Choose File' and 'No file chosen' buttons). A blue 'Submit' button is located at the bottom right of the form.

FIG-13: FORM RENDERING FEATURE OF VIZUAL PLATFORM

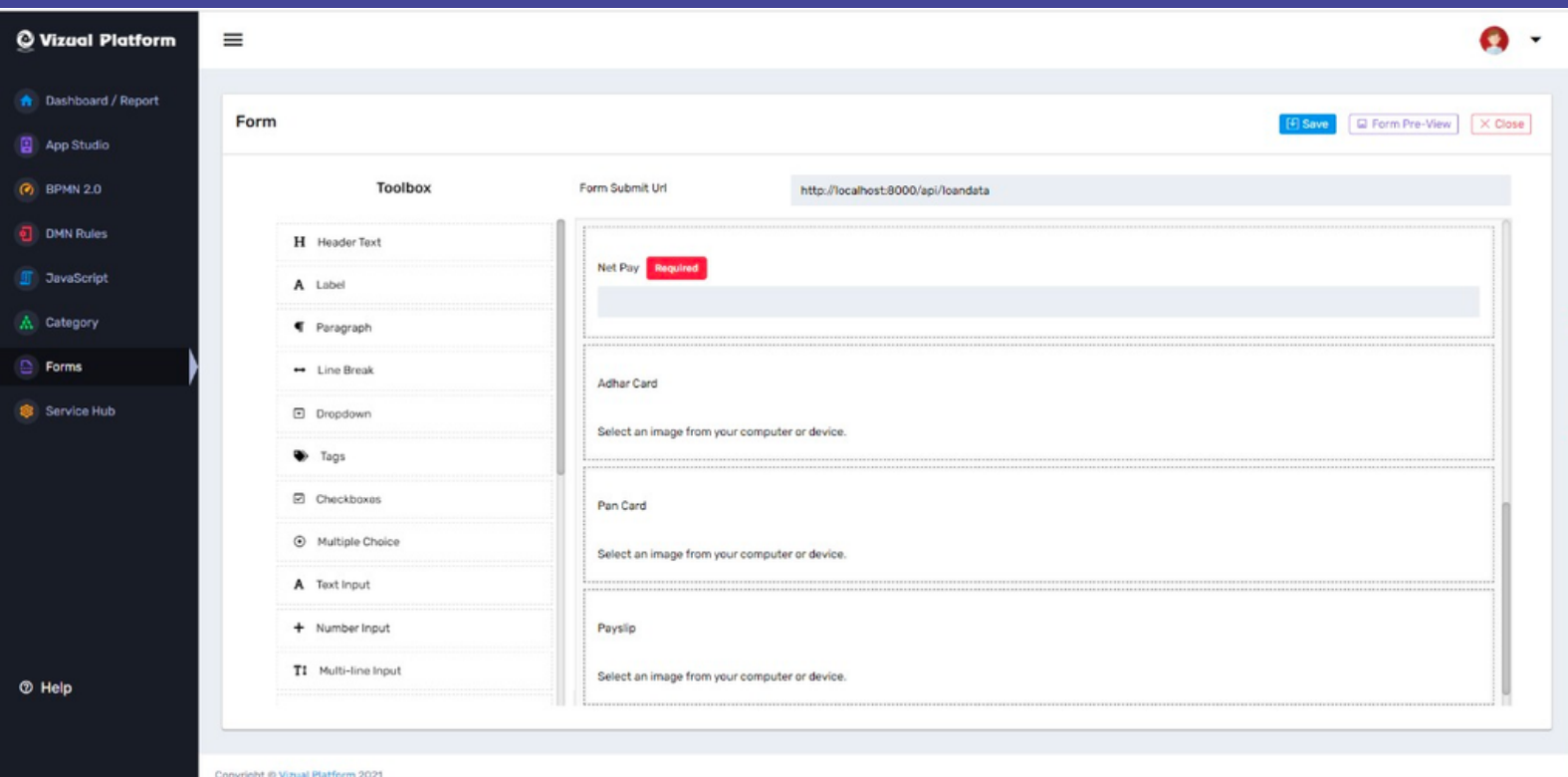
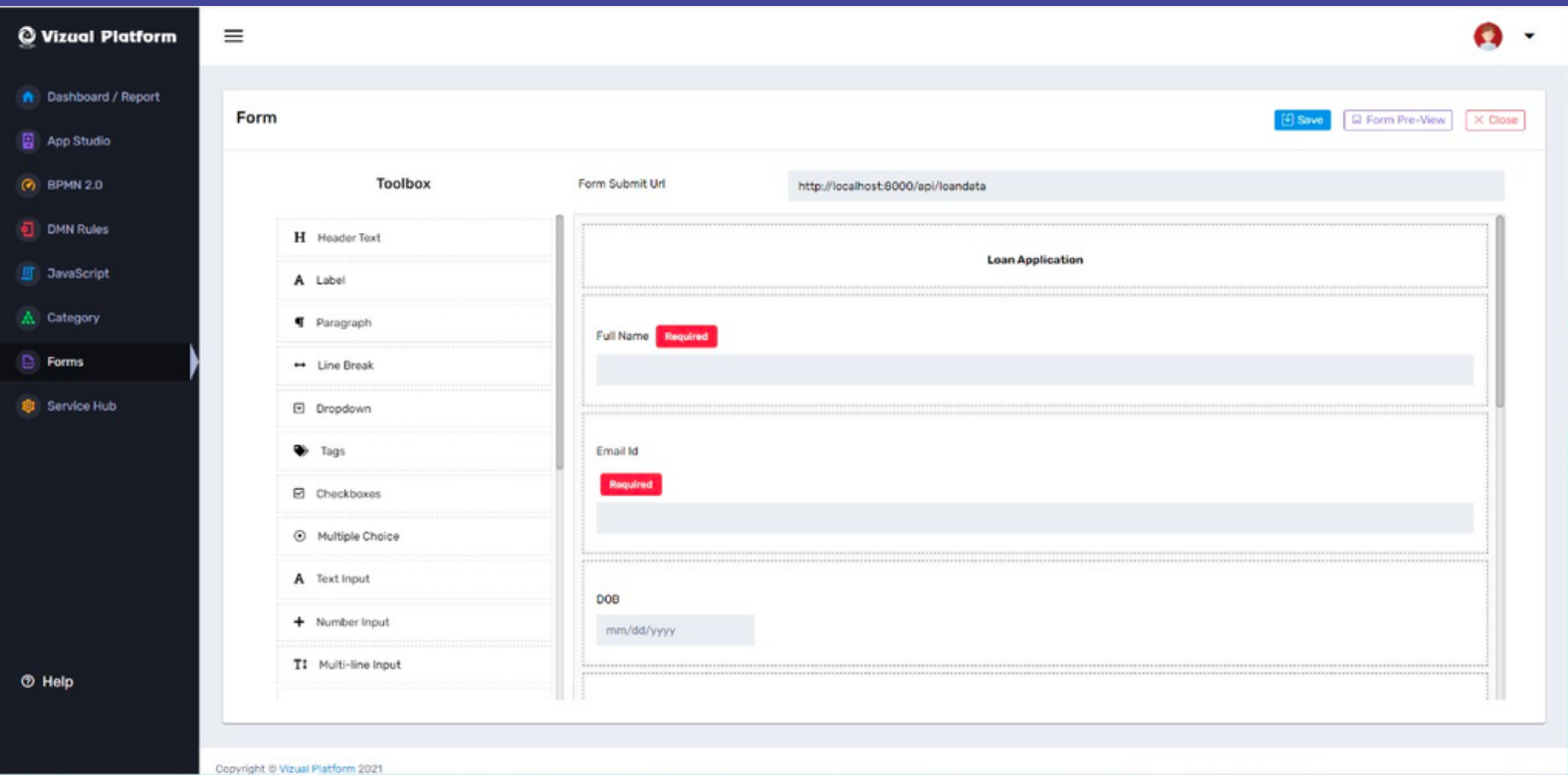


FIG-14: FORM DESIGNER OF VIZUAL PLATFORM

ACRONYMS

Sl. no	Acronym	Definition
1	BPMN	Business Process Model and Notation (BPMN)
2	OMG	Object Management Group
3	XML	Extensible Markup Language
4	DMN	Decision Model and Notation
5	API	Application Programming Interface
6	REST	Representational state transfer
7	SOAP	Simple Object Access protocol
8	DB	Database
9	GUI	Graphical User Interface
10	HTTP	HyperText Transfer Protocol
11	JDBC	Java Database Connectivity
12	QoS	Quality of Service
13	SMPP	Short Message Peer-to-Peer Protocol
14	SMTP	Simple Mail Transfer Protocol
15	SMS	Short Message Service
16	SNMP	Simple Network Management Protocol
17	WS	Web Services
18	VPN	Virtual Private Network
19	CSS	Cascading Style

Thank you!