VIZIAPPS®

Embedded and Connected
Mobile & Web Workflow Apps
for Supply Chain Management Operations

SOLUTION WHITEPAPER

EXECUTIVE SUMMARY

Supply Chain Management (SCM) Operators need the ability to rapidly collect and process huge volumes of data to rapidly reduce manual work and drive operational performance and efficiencies. Logistics Providers need to identify and rapidly deliver documented operating efficiencies to customers.

Job-specific Mobile and Web Workflow Apps are an essential human-in-the-loop component of the over-all enterprise data platform, enabling operations functional teams to collect, analyze, and utilize data in near real-time to make effective front-end decisions.

As logistics and supply chain operators continue to drive automation in all processes to automate everything, there remains a gap between full automation and the human-in the-loop realities of the supply chain physical operations.

ViziApps "fills the gap" and empowers operations teams to rapidly create and use mobile and web apps to squeeze out manual work, rapidly connect and upload real-life data and observations, and leverage backend big data, AI, Chatbots, and automation.

Deployed as embedded and connected platform within your Enterprise Private Cloud, **ViziApps can eliminate up to 90% of the incremental effort, and cost of building and deploying a suite of Mobile and Web Apps.**

This approach accelerates time-to-value by enabling SCM functional experts to focus on rapidly building apps while the complexities of security, data linking and large scale deployment are handled centrally on a platform basis.

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STRATEGIC VALUE OF MOBILE AND WEB APPS

The "today vs tomorrow" pace of the supply chain requires functional teams to rapidly respond to evolving business requirements. Businesses cannot wait months or years for traditional IT-led App development projects and need to be able to rapidly build their own task-specific mobile apps.

Supply Chain Management (SCM) operations teams need a way to accelerate the creation and deployment of mobile and web workflow apps.

ViziApps is the only solution today that can address these unique requirements:

- **Empower front-end functional teams** to "See a Need - Build a Tool –Try New Ideas"

- **Rapidly respond to new requirements** and cut app build & deploy time to days not months

- **Capture proprietary job specific rich data (e.g., images) and insights previously unavailable**

- **Lessen the impact of generational brain drain and employee turnover** by defining best practice workflows and sequencing of tasks into frontline workflow apps

- **Save front-end processing and problem resolution time** while improving accuracy of data

- **Free up front-end associates** to handle additional volume and provide additional services

- **Reduce app prototyping, experimentation and deployment time** from months to days

- **Enable the rapid building and deployment of apps for small population/high value-add mobile and web apps.**

- Quickly update and deploy new workflow app capabilities to enable fast responses to evolving business requirements… **Iterate, Iterate, Iterate**…

OPTIMIZED WORKFLOWS	**REAL-TIME DATA**
REDUCE DELAYS AND DEFECTS	**FASTER DECISIONS**

A recent research study[1] analyzing digitizing the supply chain showed that companies using mobile apps can save up to 20% in procurement costs, a substantial 50% in overall supply chain costs and achieve a 10% increase in revenue.

[1] "Are Mobile Applications in the Logistics & Supply Chain Industry Underrated?" – Mudabbir Chowdhry, https://www.linkedin.com/pulse/mobile-applications-logistics-supply-chain-industry-mudabbir-chowdhry

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NEED TO COLLECT AND UTILIZE MOBILE DATA

Mobile apps are a critical enabling element of the digital supply chain facilitating efficient, accurate capture of data, near-real-time communications and analytics, and delivery of actionable information to frontend teams and management.

MOBILE DATA COLLECTION AND UTILIZATION

At every step in the supply chain, from procurement to fulfillment, ViziApps enables operations functional teams to build apps that capture and utilize mobile data and leverage near-real-time analytic insights to reduce manual work and labor costs, accelerate use of and execution of backend processes, and enable better faster data-driven decisions and tangible ROI.

SUPPLIER MANAGEMENT	INBOUND LOGISTICS	DISTRIBUTION CENTER FULFILLMENT CENTER	LAST MILE	RETAIL/GROCERY END CONSUMER

RAPIDLY CREATE TOOLS TO SOLVE PROBLEMS

Operational teams know first-hand where functional inefficiencies exist and what tools are needed to solve problems. The challenge is how to implement a solution quickly. ViziApps enables operational experts (non-coders) to rapidly build apps that solve task specific requirements that can have a huge impact on efficiency and reduce cost.

SUPPLY CHAIN MANAGEMENT	QUALITY	INVENTORY MANAGEMENT	DISTRIBUTION FULFILLMENT	PROCUREMENT
TECH & INNOVATION	ROBOTICS AUTOMATION	RISK MANAGEMENT COMPLIANCE	SUSTAINABILITY	CUSTOMER SERVICE

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FRONTLINE WORKFLOWS AND DATA INSIGHTS

Often, capturing data on the frontline is done on paper or uses manual processes. With mobile workflow apps, critical data can be captured instantly to enable real time insights. For example, the ability to record via text, voice, and image (camera) a defect or workflow exception can be used to both quickly address operational issues, and to document and accelerate initiating dependent backend workflows (damage claims, quality, reorders etc).

New sets of proprietary rich data (images and scans) that you never had before can be captured and uploaded to your SCM data lake to enable Machine Learning (ML) and Artificial Intelligence (AI) analytics and accelerate exception resolution.

ORDER FULFILLMENT RATES	INVENTORY ACCURACY	ORDER CYCLE TIME	ON-TIME DELIVERY
ORDER PICKING ACCURACY	WAREHOUSE UTILIZATION	TRANSPORTATION COSTS	CUSTOMER SATISFACTION
	LABOR PRODUCTIVITY	RETURN RATES	

JOB-SPECIFIC MOBILE AND WEB APPS

There are a multitude of apps that may be used in SCM operations. With ViziApps, these workflow apps can be quickly created, iterated, and adapted for virtually any process that requires the capture and utilization of data.

| SHIPMENT RECEIVING QA | EXCEPTION RESOLUTION | TRAILER LOAD QUALITY | INVENTORY MANAGEMENT | VENDOR ERROR REPORTING | BREAK PACK RECEIVING | WAREHOUSE AUTOMATION |

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WHAT'S IT TO YOU? ACCELERATE TIME-TO-VALUE

Building and deploying Mobile App deployments within a large-scale Enterprise IT environment with thousands of users can be complex and time consuming and can take months or years to get deployed.

ViziApps significantly accelerates the pace at which Supply Chain Operators can securely create, deploy, and update mobile applications by eliminating many of the complexities and challenges of traditional custom mobile app development.

While it may take only days or weeks to build a mobile or web app, the overall project time from idea-to-production deployment can take months. This occurs due to number of reasons including:

- Enterprise IT security compliance

- Linking to on-premises and cloud data stores

- Technical and financial reviews

- Governance requirements

- Complexity of deploying to thousands of devices

TIME TO VALUE (EFFORT CALENDAR DAYS)

BUSINESS DAYS

- IDEATION
- REVIEW & APPROVE
- POC
- APP BUILDING
- DEPLOYMENT

TIME TO VALUE (EFFORT PERSON DAYS)

PERSON DAYS

- IDEATION
- REVIEW & APPROVE
- POC
- APP BUILDING
- DEPLOYMENT
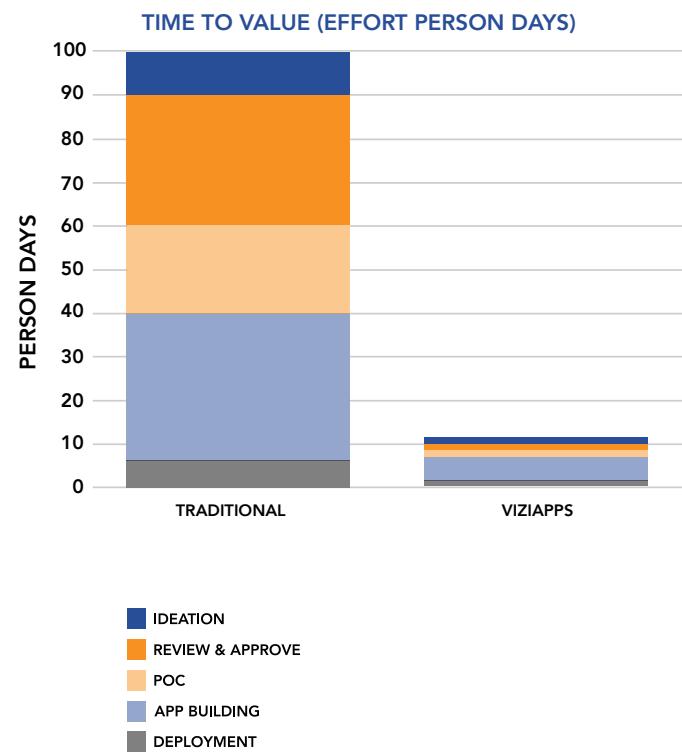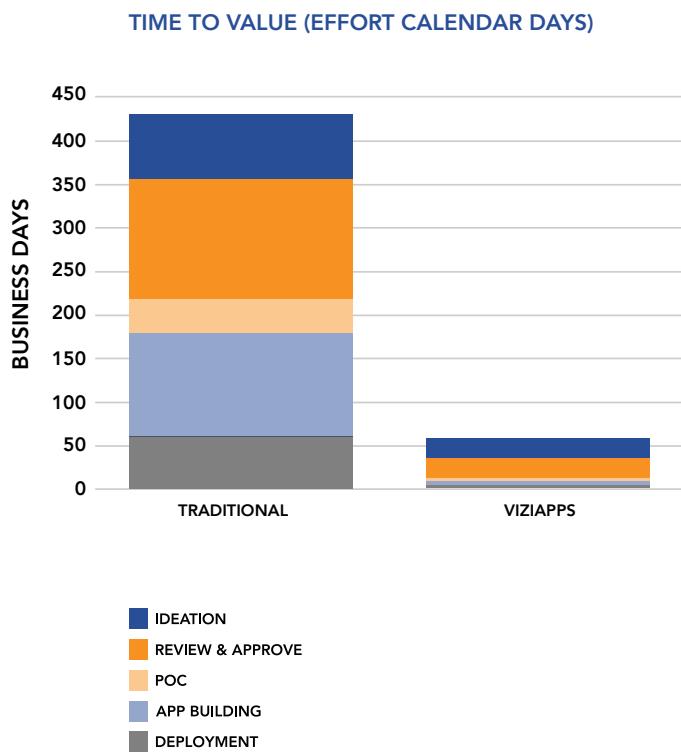
Functional teams often abandon traditional efforts, missing valuable process improvement opportunities.

AN EMBEDDED AND CONNECTED PLATFORM

ViziApps provides an embedded platform that is preconnected to your existing Enterprise resources to assure secure app builder and app user access, data security, and IT Governance compliance. This enables your functional team experts to stay focused on building apps.

FEATURES OF AN EMBEDDED PLATFORM

The features of an embedded platform approach include:

- Enterprise IT retains control of security and governance compliance, while deployment complexities are handled by the SCM ViziApps platform Administrator

- The ViziApps Visual App Studio for building Apps runs within the Enterprise Private Cloud

- Mobile and Web Apps run within the Enterprise IT Secure Perimeter and are connected to and fully utilize your existing Enterprise IT Resources including SSO, Private Cloud, Public Cloud and On-Premises Databases, App Distribution platforms, and Public Cloud Services

- Leverage generative AI-powered interactions with enterprise-specific data, bridging the gap from the linear supply chains of the past to a truly interconnected, intelligent supply chain network[2]
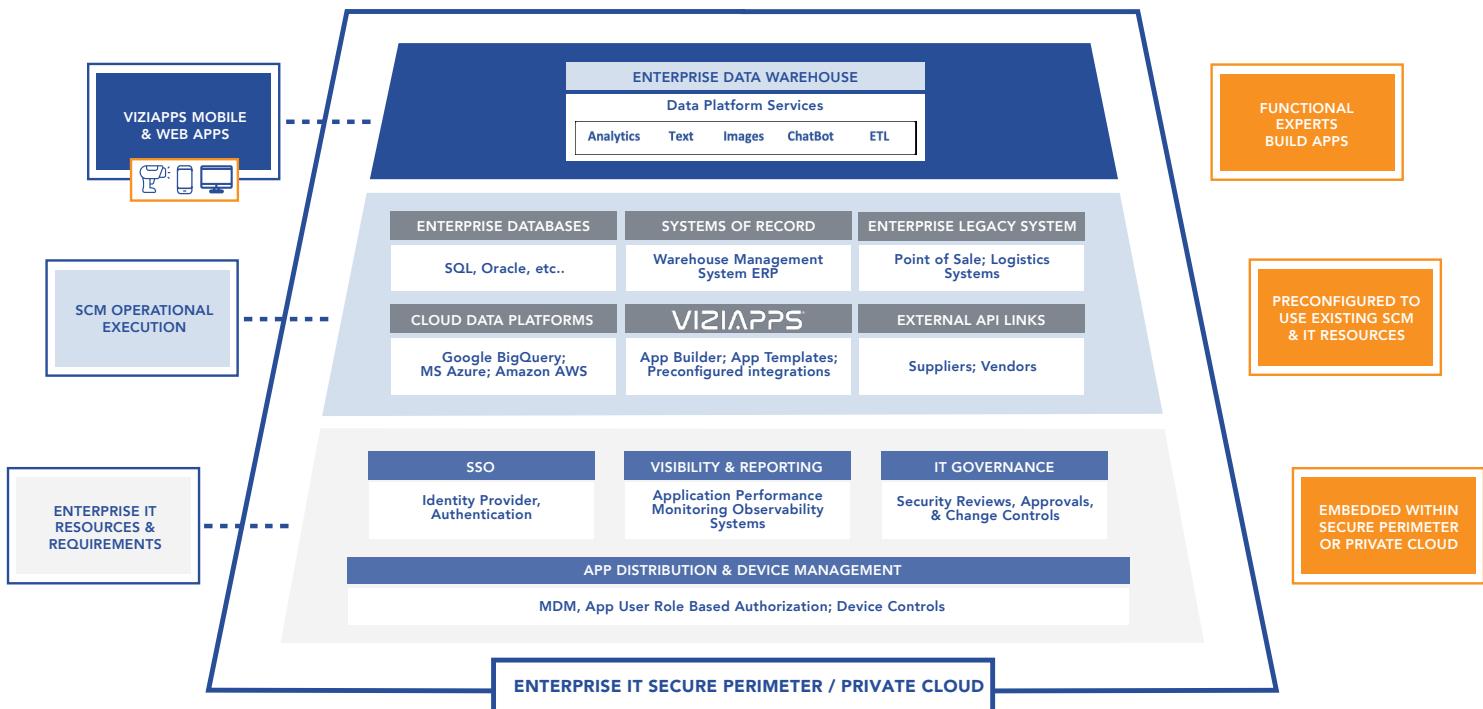
BENEFITS OF AN EMBEDDED PLATFORM

The benefits of an embedded platform approach are:

Regardless of which deployment option you choose, Private Cloud, Virtual Private Cloud, or SaaS Cloud Platform, ViziApps will work directly with your Supply Chain Operations and Enterprise IT teams to embed and connect ViziApps to your existing IT resources.

- Functional team App Builders no longer need to spend time wrestling with IT security and governance issues, or figuring out how to access on-premises and cloud IT resources they need.

- Standardized user and device access security, data linking, and a "company branded" user experience using standard UI and UX components

- Compliance with IT governance requirements controlled on a platform basis by the platform administrator

- All data remains securely stored and processed within your Enterprise Private Cloud under Corporate IT control and governance

- Mobile and Web Apps are connected to, but independent of, the data; for example, all data stays within the Enterprise IT secure perimeter

- Leveraging of existing IT resources and services so that functional teams can concentrate on business goals and spend less time creating and maintaining technical infrastructure.

Regardless of which deployment option you choose, Private Cloud, Virtual Private Cloud, or SaaS Cloud Platform, ViziApps will work directly with your Supply Chain Operations and Enterprise IT teams to embed and connect ViziApps to your existing IT resources.

RETURN ON INVESTMENT

Deployment of the ViziApps Platform as an embedded and connected solution within your Enterprise Data Architecture can **eliminate up to 90% of the incremental effort** and cost of building and deploying a suite of Mobile and Web Apps.

Here's how it works:

- **Streamlined Efficiency:** With the ViziApps Platform, development teams no longer need to reinvent the wheel with each new mobile app project. Instead of starting from scratch every time, they can leverage a platform that is already embedded within their Enterprise IT security perimeter and utilize pre-built connectors and integrations with IT Resources, including SSO Security, Databases, and other on-premises or cloud services. This significantly reduces development time and effort and app time to production release value.

- **Cost-Effective Solution:** Building custom mobile apps from scratch can be a costly endeavor, requiring extensive development resource time to enable user authentication, secure devices, link data, and deploy each apps on an individual basis. ViziApps dramatically reduces this cost by enabling non-developers to quickly create and test mobile apps on their own.

- **ViziApps as a Shared Private Service Platform:** Provides a cost effective, centralized platform for app development with the necessary security, data linking, and app deployment functionality pre-configured. This significantly reducing the overall expenses associated with app development and deployment.

- **Enhanced Security:** Security is paramount in enterprise and supply chain environments. When deployed, the ViziApps platform is preconfigured to utilize your existing Enterprise SSO for user authentication and authorization. By leveraging existing enterprise security protocols and standards, IT app security compliance is assured, and app development and deployment times are significantly reduced.

- **Scalability and Flexibility:** The ViziApps platform enables frontend functional teams to be agile and responsive to the changing needs of the business by rapidly prototyping, iterating, and deploying new and updated mobile apps that solve problems.

- **Centralized Management:** Managing multiple custom mobile apps individually can be a logistical nightmare. ViziApps provides centralized management tools that allow the designated platform administrator to oversee and control all aspects of app development, resource linking and configuration, deployment, and maintenance.

- **Seamless Integration:** Integration with existing enterprise systems and databases is seamless with ViziApps. Whether it's SSO, Databases, Cloud Services, Warehouse Management Systems (WMS), or legacy systems, ViziApps ensures smooth interoperability, enabling enterprises to lever age their existing IT resources and infrastructure without disruption.

- **Rapid Deployment:** Time-to-Response is critical in fast-paced SCM and Distribution Centers. ViziApps accelerates the deployment process, allowing businesses to launch new apps quickly and efficiently, gaining a competitive edge by optimizing workflows and sequencing tasks.

- **Continuous Innovation:** As technology evolves, so does the ViziApps Shared Service Platform and its capabilities. ViziApps is committed to engineering best practices. We use Continuous Integration and Continuous Delivery/Deployment (CI/CD) methods that reduce errors and the time required to integrate and test.

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With regular Platform updates, feature enhancements, and access to the latest tools and technologies, ViziApps customers can stay at the forefront of mobile app development and innovation without the burden of managing it all themselves.

VIZIAPPS: A VISUAL APP DEVELOPMENT PLATFORM

The **ViziApps Studio** is a unique web-based visual app development environment that enables non-coders on functional operations teams to rapidly build, test, and deploy job-specific mobile and web workflow apps.
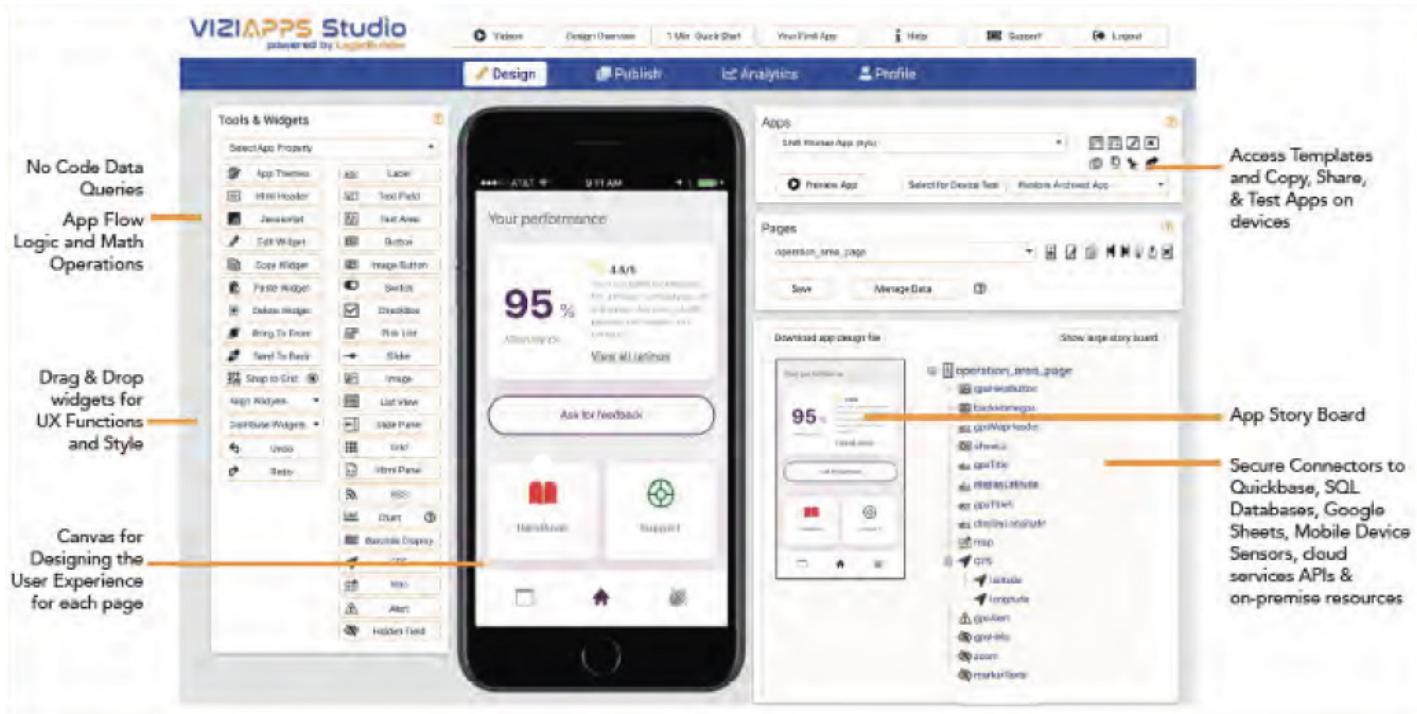
WHAT'S INCLUDED:

DESIGN TOOLS
- Real-time back-end data queries and updates
- App Workflow Logic
- Math Operations

USER EXPERIENCE AND BRANDING
- Full Free-form App page design
- Drag-and-drop widgets
- Unified UX across all device types

VISUAL NO-CODE
- App Storyboard
- Active data field lists
- App Templates to save and share
- Easily use JavaScript to expand app options

SECURE
- Connect securely to:
  - SQL Databases, Google Sheets Quickbase and more
- Supports cloud and on-premise

QUICKLY TEST & DEPLOY
- Copy & share apps with your team
- Test apps directly on devices
- Version Control & Archiving

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VIZIAPPS STUDIO FEATURES

The ViziApps Studio provides numerous features to make building apps easy:

- Support for "Visual Storyboarding" during app design

- Leverages drag-and-drop widgets to create your UX and Workflow

- Build your workflow logic with simple English language type statements and easily use JavaScript for virtually unlimited Low Code mobile app design

- Securely link mobile device data to your SQL databases, cloud service APIs, Quickbase, and on-premises resources

- Instantly Test your app in preview mode before publishing

- Distribute your apps via Apple App Store, Google Play, or via enterprise distribution using Mobile Device Management (MDM) solutions such as AirWatch, Microsoft InTune, and MobileIron

VIZIAPPS STUDIO BENEFITS

- Enables rapid creation of custom mobile apps with no coding required

- Provides app builders with full access to all device features, including photo and video capture, NFC, bar codes, QR codes, signature capture, phone calls, maps, and GPS metadata

- Supports full offline mode including use of databases, and provides support for photos in poor signal quality work environments

- Enables use of device push notifications including Twilio and other services

- Enables creation of "company branded" enterprise apps based on global templates using company branding guidelines

- Supports the use of JavaScript in conjunction with the no-code environment

VIZIAPPS ENGINEERING AND TECHNICAL SERVICES

To expedite the embedding of the ViziApps platform with your Enterprise IT Platform, the ViziApps Engineering team performs the necessary integrations and configurations.

PLATFORM INTEGRATION AND CONFIGURATION

Integration and configuration Technical Services performed include:

- Defining and assisting with the configuration of Development, Staging, and Production Cloud environments

- Configuring connections and integrations with IT Resources, including SSO, Databases, Cloud Services, App Distribution platforms, and other on-premises, private cloud, or public cloud services

- Ensuring Device compatibility

- Mobile App support for Enterprise designated devices running on Android or iOS, including mobile devices (Company Owned or BYOD), tablets, bar code scanners, or specialty devices

- Web Apps supported on Mobile iOS and Android-based Devices and Tablets, Laptop's and PC's

- Customer specific features and functionality will be developed by ViziApps Software Developer on a Statement of Work basis

- Enterprise Private Cloud Customers directly benefit from the ongoing investment in the ViziApps Public Cloud SaaS platform, with all new functionality made instantly available

ENABLING APP CREATION AND DEPLOYMENT

ViziApps experienced Solution Engineers work together with the SCM ViziApps platform Admin to provide a comprehensive set of Services to the App Builders. This enables them to rapidly build tailor-made apps that deliver business value and a tangible ROI to their functional team.

The scope of ViziApps Technical Services available include:

- Enterprise Customer / Deployment Specific App Builder On-Boarding and Training
    - o New app builder onboarding and training programs
    - o Customer specific feature documentation and Help wiki
    - o App Deployment process and procedure documentation and streamlining
- App Builder Engagement to assure success
    - o Weekly "Builder Office Hours" and Builder "Teams Chat" forum
- Direct feedback loop to ViziApps Product and Engineering teams for enhancements
    - o Company Specific Functionality and New Technologies and Data Interfaces can be added to ViziApps core platform based on your spec and schedule
- Offload repetitive non-value-add tasks from both Platform Administrators and App Builders
    - o Release Management and Change Control process execution, and cross-functional coordination
    - o Customer-specific functionality QA and app integration testing
    - o Complex cross functional App Deployment workflows
- Central Management of Deployment Complexities:
    - o Security, data linking, UI/UX, and branding enabled at the platform level
    - o Change Control procedures and App deployment workflows executed as a service, relieving burden on builders and platform Administrator

ABOUT VIZIAPPS

ViziApps pioneered and continues to be a leading innovator in the No-Code/Low-Code Mobile App Builder market, helping enterprises gain operational efficiencies by quickly and securely building, deploying, and updating mobile and web workflow apps faster and less expensively than ever before.

The ViziApps Visual No-Code/Low-Code App Builder platform provides Business Operations and Digital Innovation teams an enterprise grade platform to quickly build the job-specific mobile apps needed to digitize and optimize operational and service workflows.

Without needing to know how to code, Operations Professionals use ViziApps to quickly create the unique job-specific mobile apps they need, when they need them, without the cost, complexity, and time-lag of in-house or third-party coded development efforts.

ViziApps enables mobile app builders to control the App development schedule, while the IT Department retains control over Data Security and Governance Policy compliance. To assure timely and successful customer deployments our Engineering Team will, at your direction, embed the ViziApps platform within your existing IT infrastructure and connect to your IT resources. You don't have to change existing processes or adapt new tools or workflows.

ViziApps offers a comprehensive suite of App Builder Onboarding and Training and Technical Support Services to enable function teams.

To further assure successful customer deployments, ViziApps offers a comprehensive suite of App Builder Onboarding and Training and Technical Support services, and optional Custom App Creation and Development Services.

ViziApps, Inc. is led by a team of experienced technology executives and the ViziApps Visual App Builder platform is now being used by leading enterprises including Walmart and Hyatt.

CONTACT US

For additional information please contact:

Joe Ryan
SVP Sales & Technical Services

jryan@viziapps.com
m. +1.617.909.6028
www.viziapps.com

40909