



Banca  
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# Technical Proposal

Core & Digital Banking Transformation – Lot 1

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# Safe Harbour

## Validity

This proposal is valid for 180 days from the date of submission. JMR Infotech (JMR) reserves the right to revise the proposal any time thereafter.

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## Confidentiality Clause

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## Disclaimer

This Document has been prepared based on the initial understanding of the requirements. The information available and wherever proposed, the approach and/or services mentioned are based on the requirements defined and understood by us, based on discussions so far.

This Document has been written for the use of Bank, whilst every care has been taken to ensure that the contents of this Document are complete and realistic, JMR reserves the right to change or withdraw the document in the light of further information gained, based on the actual requirements.

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# 1. Executive Summary

We are pleased to present this proposal in response to your bank's visionary initiative to modernize its **Core and Digital Banking landscape**. At **JMR Infotech**, we recognize the strategic importance of this transformation not just as a technology upgrade, but as a foundational shift toward agility, innovation, and customer-centricity.

The tender is structured into two distinct lots: **Lot 1** focuses on the implementation of a **Core & Digital Banking System** to support banking operations, **encompassing licenses, implementation services, training, warranty, and integration**. **Lot 2** covers the implementation of an **Enterprise Resource Planning (ERP) solution addressing accounting, finance, procurement, and asset management**.

JMR hereby submits its proposal for both **Lot 1 & 2**, leveraging its extensive experience and proven track record in delivering robust, scalable, and regulatory-compliant Core, Digital, and ERP banking solutions tailored to central banking environments. A separate proposal has been submitted for Lot 2.

By implementing the **Oracle Banking stack**, your bank stands to gain:

- **Future-ready architecture** that supports rapid innovation and scalability
- A **comprehensive and integrated Core Banking** platform supporting lending, customer management, treasury, and trade finance operations
- **Enhanced operational efficiency** through streamlined processes and automation across the banking lifecycle
- Improved **risk management, regulatory reporting**, and compliance aligned with Bank of Tanzania requirements
- **Scalable architecture** to support future business growth, product innovation, and increased transaction volumes
- **Seamless integration** capabilities with external systems and infrastructure
- **Open banking capabilities** to foster ecosystem partnerships and new revenue streams
- **Cloud-native deployment options** for operational efficiency and cost optimization
- **Fiorano ESB and API Manager** for secure integrations and ecosystem enablement

Our proposal is designed to help you unlock these benefits through a proven, intelligent, and collaborative transformation journey.

At **JMR Infotech**, we are at the forefront of enabling financial institutions to lead in the digital era. Our Core and Digital Banking Transformation services are built on a foundation of innovation, intelligence, and deep industry expertise delivered through a uniquely collaborative model that ensures long-term success.

## **Our Unique Engagement Model: The 'Extended Arm' Advantage**

JMR Infotech's **'Extended Arm' model** is more than a delivery approach it's a strategic partnership. We embed our experts within your teams, ensuring:

- Seamless collaboration and faster decision-making

- Deep contextual understanding of your business
- Accelerated transformation with reduced risk
- Sustainable capability building within your organization

This model transforms vendor relationships into **value-driven partnerships**.

### AI-Driven Delivery with SensAI

Our proprietary **SensAI platform** powers intelligent transformation through:

- real-time insights into Project with AI powered Project Knowledge Management
- AI-led automation and testing
- Continuous optimization of delivery processes
- Enhanced risk mitigation & AI powered Automation

With SensAI, we bring **speed, precision, and foresight** to every transformation initiative.

### Centre of Excellence (CoE) for Core & Digital Banking

Our dedicated **Centre of Excellence (CoE)** is the innovation engine behind our success in Core and Digital Banking. The CoE:

- Develops best practices, frameworks, and accelerators
- Provides deep domain expertise and reusable assets
- Drives continuous innovation and capability enhancement
- Supports rapid deployment and post-implementation excellence

The CoE ensures that our clients benefit from **cutting-edge solutions, proven methodologies, and global insights** tailored to their unique needs.

### Proven Track Record of Excellence



With a global footprint and **two decade-long legacy**, JMR Infotech has delivered successful Core and Digital Banking transformations across diverse markets. Our expertise spans:

- Core banking modernization
- Digital channel enablement
- Risk and compliance automation
- Open banking and cloud-native platforms

### Recognized by Industry Analysts and Awards

Our excellence is consistently recognized by global analysts and industry bodies:

- 🏆 **Best Banking Technology Solution Provider** – *Global Banking and Finance Review Awards, 2025*
- 🏆 **Best Provider in Enterprise-Wide Digital Transformation** – *11th Africa Bank Summit, 2023*
- 🏆 **Best Core Banking and Risk Management Provider (UAE)** – *Financial Derivative, Europe, 2022*
- 🏆 **Top 10 Most Promising Banking Technology Solutions Providers** – *CIO Review Magazine, 2021*
- 🏆 **Top 10 Risk Management Solution Providers** – *CIO Insider, 2020*
- 🏆 **Global Banking and Finance Review (2020)** – *Decade of Excellence in Technology – MENA*
- 🏆 **10 Most Recommended Risk Management Solution Providers** - *CIO Insider (2020)*
- 🏆 **Top 20 Most Promising Banking Technology Solutions Providers** - *CIO Review (2019)*
- 🏆 **Best Innovation in Education Technology for Schools** - *World Education Summit (2016)*
- 🏆 **World Business Leader for innovation, knowledge leadership, and a systematic approach** – *World Confederation of Business (2015)*
- 🏆 **50 Fastest Growing Tech Companies for innovation, customer orientation, and domain expertise** - *Silicon Review (2015)*

-  **Best Core Banking Solution Provider in Middle East & Africa** – *Global Banking and Finance, 2014*
-  **Top 25 Core Banking Software Companies & Systems** – *Lucep Pte*
-  **valU (powered by JMR's Genie de Banca)** – *Winner of 3 prestigious Fintech Awards: Fintech Innovation of the Year – Terrapin's Seamless Awards 2019, Dubai - Payments Award – E-Commerce Summit 2019 and European Global Banking Award – 2020*

With our **Extended Arm model, SensAI-powered delivery**, and a world-class **Centre of Excellence**, JMR Infotech is your ideal partner for Core and Digital Banking Transformation. We don't just deliver solutions we deliver outcomes

***Let's Transform the Future of Banking Together***

# 2. Corporate Profile

## 2.1 About JMR Infotech

### Empowering Global Banking through Innovation and Trust

Since its inception in 2007, JMR Infotech has emerged as a formidable force in the global technology landscape, with a presence spanning five continents Africa, APAC, the Middle East, and the Americas and delivering transformative services across 75+ countries. Driven by a bold vision to become the most trusted & respected global technology partner for banks worldwide.



**19 years** in business

**600+** BFSI Experts

**Quality Certified**  
ISO 27001:2013 ISO 9001:2015

**Platinum Partner**

Specialized Financial Services Industry

**400+** Projects delivered for Banking and Financial Institution across 75 countries

## 2.2 Evolution of JMR

18+ Years in Business | HQ in Sharjah, UAE | Delivery Hubs in India

**Certifications:** NASSCOM Certified Member of NASSCOM, ISO 27001:2013 Certified, ISO 9001:2015 Certified

**Awards & Recognition:** GREAT PLACE TO WORK CERTIFIED (MAY 2017 - APR 2018) INDIA, Best Core Banking Software Company 2022 (UAE), Best Risk Management Solution Company 2022 (UAE), Best Provider in Enterprise-Wide Digital Transformation (2023)

**Partnerships:** ORACLE Platinum Partner, Specialized Financial Services

**Key Milestones:**

- 2007: Ribbon cutting
- 2008: 25+ Customer Engagements
- 2011: 50+ Customer Engagements
- 2014: 100+ Customer Engagements
- 2017: 200+ Customer Engagements
- 2020: 270+ Customer Engagements
- 2023: 370+ Customer Engagements
- 2024-25: 400+ Customer Engagements

**Accolades:** Cited as One of 50 Fastest Growing Technology companies – Silicon Review; Best Core Banking Technology provider for MEA – Global Banking and Finance Review; Rated as "World Business Leader" – World Confederation of Businesses; Decade of Excellence Technology MENA 2020 – Global Banking and Finance Review; Best Banking Tech Provider in the Middle East (2025) – Global Banking & Finance Review

## 2.3 Oracle Banking Suite Specialist & System Integrator

JMR is one of **earliest Oracle's Platinum Partner** for financial services. During the last **19 years**, JMR has executed **400+ Banking engagements, 8000 Person years' experience** with respect to Oracle suits of applications. JMR is amongst the very few Oracle partners who have the implementation experience on entire financial service stack be it **Implementation, Upgrades or Managed Services**.

Some of our customer across geographies.


Some of the recent projects (FLEXCUBE 14.x and OBDX 25.x) of similar nature executed or in execution across geographies.

	Customer	Region/ Country	FLEXCUBE	OBDX
1	Union Bank	Europe	✓	✓
2	St. Kitts-Nevis-Anguilla National Bank	Caribbean	✓	✓
3	Zanaco	Southern Africa (Zambia)	✓	
4	First Alliance Bank (Z) Ltd.	Southern Africa (Zambia)	✓	✓
5	Housing Finance Bank	Eastern Africa (Uganda)	✓	
6	Bank of Uganda	Eastern Africa (Uganda)	✓	
7	Siinqee Bank	Eastern Africa (Ethiopia)	✓	✓
8	NBE Egypt (Sudan)	Eastern Africa	✓	✓
9	Seychelles Commercial Bank	Eastern Africa	✓	✓
10	Employees Welfare Fund	Eastern Africa	✓	✓
11	Aman Bank	North Africa	✓	✓
12	Tadhamun Bank (formerly ACB)	North Africa	✓	✓
13	Daman Islamic Bank	North Africa	✓	✓
14	Cofina Group (Multi-country)	West Africa	✓	
15	Access Bank PLC	West Africa (Nigeria)	✓	
16	Poste Finance	West Africa	✓	✓
17	Bank South Pacific	Oceania	✓	✓
18	Abu Dhabi Fund for Development	Middle East	✓	
19	Banque MISR	Middle East	✓	
20	NBE Egypt (Saudi)	Middle East	✓	✓
21	ST Bank Limited	Asia	✓	✓
22	Waafi Islamic Digital Bank	Asia	✓	✓

## 2.4 AI Strategic Partner

Along with Core Banking Implementation Program, we also propose to serve as Bank's AI Strategic Partner to jointly define, prioritize, and execute the Bank's AI roadmap in a secure, governed, and scalable manner. This partnership approach ensures AI initiatives move beyond isolated pilots and become an enterprise capability embedded into business-as-usual operations.

### The SensAI Platform: A Scalable Framework for Enterprise AI

SensAI is JMR's universal AI platform designed to accelerate the delivery of AI use cases across functions while maintaining strong governance, security, and operational control. SensAI provides a reusable "AI factory" model so each new use case benefits from common building blocks such as data connectors, RAG services, model management, orchestration, monitoring, and auditability.

#### Key Capabilities

- Use-case onboarding framework: Rapidly add and deploy new AI use cases without rebuilding foundational components.

- Enterprise-grade security: Role-based access, segregation of duties, and controlled exposure of data and tools.
- Operational readiness: Monitoring, feedback loops, model/version tracking, and production deployment discipline.
- Extensible by design: New workflows can be introduced as the bank's priorities evolve.

### Illustrative AI Use Cases (Initial Set)

SensAI enables multiple high-impact use cases aligned to banking transformation priorities. Examples include:

1. Smart Knowledge Assist - Context-aware assistance for staff (operations, branches, contact center, IT, product teams) with guided answers grounded in approved bank content.
2. Report Summarization & Predictive Insights - Auto-summarization of MIS, risk, finance, and operational reports, along with forecasting/predictive analysis for trend identification and early-warning signals.
3. Smart Application Intake - Intelligent ingestion and validation of applications (loan/customer onboarding/requests), including document completeness checks, classification, and routing.
4. Intelligent Credit Scoring - Augment traditional scoring with alternate and behavioral indicators (where permitted), delivering explainable risk signals and improved decision consistency.
5. Risk-Based Pricing Models - Assist pricing teams with data-driven recommendations factoring risk, portfolio strategy, customer value, and market dynamics.
6. Policy Compliance & Alignment - Automated checks against internal policies and regulatory guidelines flagging gaps, inconsistencies, and required actions with evidence-based references.

*Additional use cases can be onboarded continuously based on business priorities and value realization.*

### Secure Knowledge Enablement with RAG (Retrieval-Augmented Generation)

SensAI uses a RAG-based approach to ensure responses are grounded in the bank's approved knowledge base rather than relying on generic model memory.

How this protects the bank

- Data stays under bank control: Knowledge sources remain within the bank's security boundary (as per agreed deployment architecture).
- Privacy-by-design: Access to documents and answers is governed by user entitlements and data classification rules.
- Evidence-first responses: Outputs are generated based on retrieved, permitted content, reducing hallucinations and ensuring traceability.

### Guardrails and Controlled Tool Access (MCP-Aligned Integration)

To implement robust governance and safe enterprise integration, SensAI supports controlled tool and data access patterns aligned with Model Context Protocol (MCP) principles i.e., structured connectors to enterprise systems with explicit permissions and bounded capabilities.

Guardrails include

- Allowlisted actions only: Agents can call only approved tools/APIs with predefined scopes (e.g., "read-only MIS summary," "validate document checklist," "fetch customer policy clause"), not unrestricted system access.

- Strong authentication & authorization: Tool access tied to user identity/role, with fine-grained permissions.
- Policy enforcement & validations: Input/output checks, sensitive data redaction rules, and domain validations (e.g., credit policy constraints).
- Audit trails: Logging of prompts, retrieved sources, tool calls, and outcomes for compliance and review.
- Human-in-the-loop controls: Approval steps for high-impact actions (e.g., pricing overrides, credit decision recommendations).

### **Delivery Approach and Partnership Model**

JMR proposes a structured engagement model:

- AI Roadmap Definition: Use-case discovery workshops, value sizing, feasibility assessment, data readiness review, and a prioritized roadmap.
- Pilot-to-Scale Execution: Rapid pilots (6–10 weeks typical per use case) followed by hardening, integration, and controlled rollout.
- Operating Model Setup: Governance, model risk management alignment, monitoring, continuous improvement, and capability transfer to bank teams.
- Measurable Outcomes: Clear KPIs turnaround time reduction, improved decision consistency, reduced operational risk, higher staff productivity, and better customer experience.

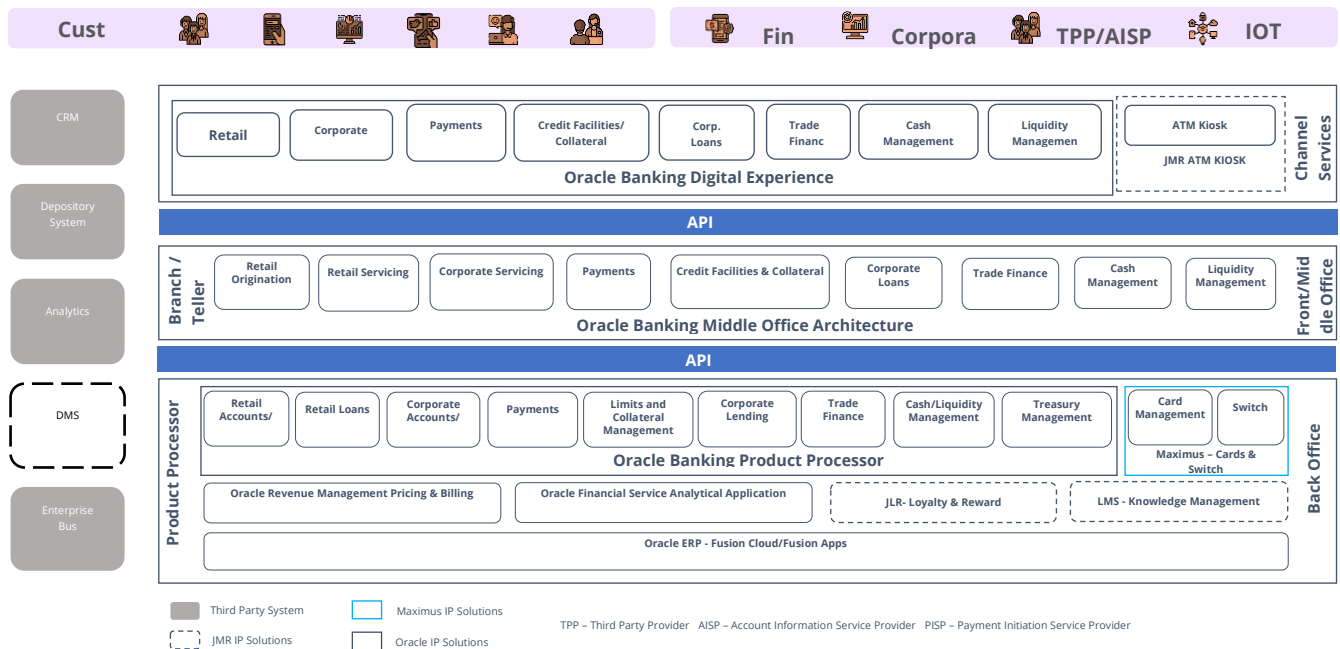
By combining the Banking modernization program with a governed AI roadmap powered by SensAI, Bank can:

- Accelerate AI adoption with reduced delivery risk
- Ensure security, privacy, and compliance by design
- Scale from a few pilots to an enterprise portfolio of AI capabilities
- Establish JMR as a long-term partner for AI strategy and execution

# 3. Solution Stack & Overview

JMR Infotech, in strategic partnership with **Oracle**, a robust ecosystem of technology providers, offers a **comprehensive and integrated solution stack** for Core and Digital Banking Modernization. This synergy brings together the best of global platforms, domain expertise, and innovation accelerators to deliver unmatched value to financial institutions.

**Reference comprehensive & immersive, composable, API first and microservice based architecture.**



## 3.1 Oracle Banking/FLEXCUBE: A Differentiator in the Modern Core Banking Arena

In an era where agility, customer-centricity, and ecosystem readiness define banking success, **Oracle FLEXCUBE** stands out as a **next-generation core banking platform** that empowers financial institutions to lead with innovation and resilience.

### 1. Composable and Cloud-Native Architecture

Oracle FLEXCUBE is built on a **modular, microservices-based architecture** that supports:

- **Composable banking:** Banks can deploy only the components they need, enabling faster time-to-market.
- **Cloud-native deployment:** Optimized for public, private, and hybrid cloud environments, reducing infrastructure costs and enhancing scalability.
- **DevOps and CI/CD readiness:** Accelerates innovation cycles and reduces deployment risks.

### 2. Embedded Intelligence and Automation

FLEXCUBE integrates **AI/ML-driven insights** and **process automation** across the banking lifecycle:

- **Predictive analytics** for customer behaviour, risk, and operations
- **Automated workflows** for onboarding, lending, and compliance
- **Real-time decisioning** for personalized customer experiences

This intelligence layer enables banks to move from reactive to **proactive and predictive banking**.

### 3. API-First and Open Banking Ready

With over **1,500+ RESTful APIs**, FLEXCUBE is designed for **ecosystem integration**:

- Seamless connectivity with fintech ecosystem, partners, and third-party services
- Support for **Open Banking standards** (PSD2, UPI, etc.)
- Enables **Banking-as-a-Service (BaaS)** and embedded finance models

This positions banks to **monetize APIs** and create new revenue streams.

### 4. Global Compliance and Localization

FLEXCUBE supports **multi-currency, multi-entity, and multi-language** operations across 140+ countries, with:

- Pre-configured compliance for global and regional regulations (e.g., FATCA, AML, GDPR)
- Rapid localization capabilities for new markets
- Built-in risk and audit frameworks

This makes it ideal for **global banks and regional leaders** alike.

### 5. Customer-Centric Design

FLEXCUBE enables banks to deliver **hyper-personalized experiences** through:

- Unified customer views across products and channels
- Real-time product bundling and pricing
- Contextual engagement and lifecycle management

It transforms the core into a **customer engagement engine**, not just a transaction processor.

## 6. Proven Scalability and Performance

With successful deployments in **Tier-1 banks, digital-only challengers, and regional institutions**, FLEXCUBE has demonstrated:

- High-volume transaction processing
- 24x7 availability with zero downtime upgrades
- Resilience under regulatory and operational stress

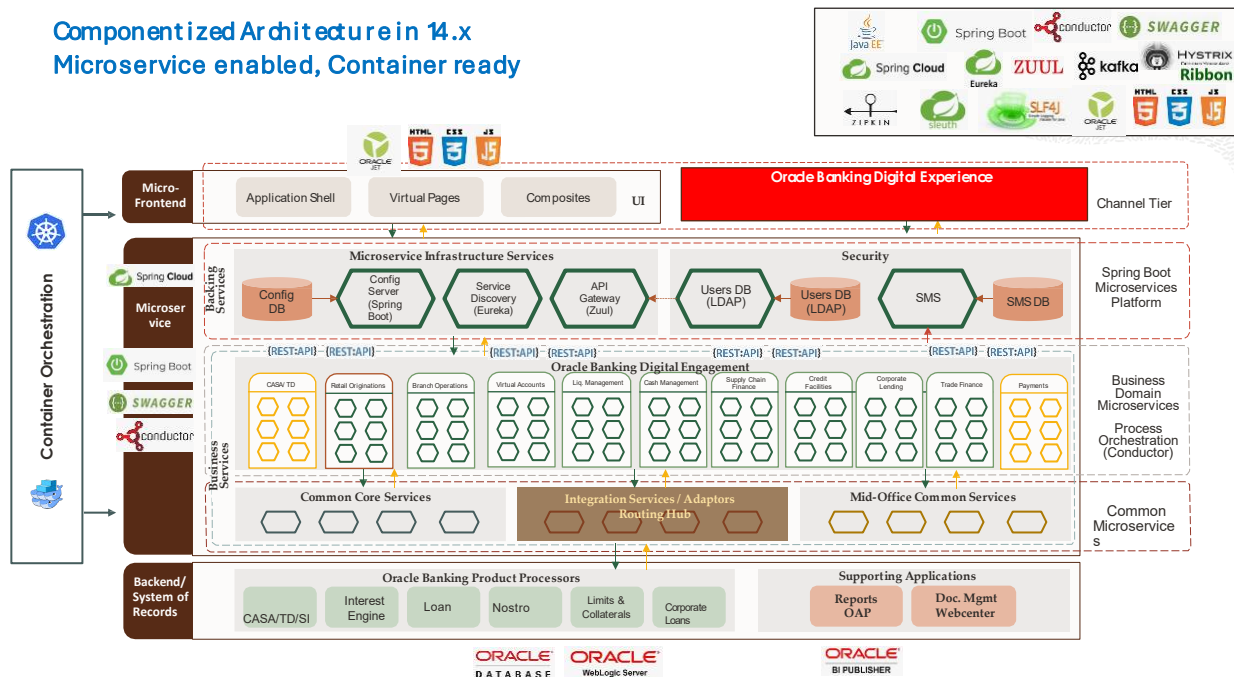
## Why Oracle Banking/FLEXCUBE is the ultimate solution for Core Transformation.

In a crowded core banking market, Oracle FLEXCUBE differentiates itself through:

- **Technology maturity** backed by Oracle's global R&D
- **Ecosystem extensibility** via open APIs and cloud-native design
- **Operational intelligence** embedded into every layer
- **Global trust** with 600+ banks across 140+ countries

## Oracle Banking/FLEXCUBE Product Processor Technology Architecture

Componentized Architecture in 14.x  
Microservice enabled, Container ready



## 3.2 Oracle Banking Digital Experience (OBDX): Redefining Digital Banking Engagement

In today's hyper-connected, customer-first world, banks must deliver seamless, secure, and personalized digital experiences across every channel. **Oracle Banking Digital Experience (OBDX)** is engineered to meet this demand offering a unified, scalable, and intelligent digital banking platform that empowers banks to lead in the digital economy.

### 1. Omnichannel Experience Engine

OBDX provides a **truly omnichannel platform** that ensures consistent and contextual experiences across:

- Mobile, web, tablet, and wearable devices
- Retail, corporate, SME, and agent banking segments
- Assisted and self-service channels

This enables banks to deliver **anytime, anywhere banking** with a unified customer journey.

### 2. API-First and Microservices-Based Architecture

Built on a **cloud-native, microservices architecture**, OBDX is:

- **API-first** with 1,200+ RESTful APIs for rapid integration and innovation
- **Composable and extensible**, allowing banks to plug in new services and fintech capabilities
- **DevOps-ready**, supporting continuous delivery and agile innovation

This makes OBDX ideal for banks embracing **Open Banking and Banking-as-a-Service (BaaS)** models.

### 3. Pre-Built Digital Journeys

OBDX comes with a rich library of **pre-configured digital journeys** for:

- Onboarding, account opening, and loan origination
- Payments, transfers, and trade finance
- Customer service, alerts, and self-care

These journeys are **configurable and reusable**, accelerating time-to-market and reducing development effort.

### 4. Embedded Security and Compliance

Security is built into the core of OBDX with:

- Multi-factor authentication and biometric support
- Role-based access control and transaction limits
- Compliance with global standards (e.g., PSD2, GDPR, ISO 20022)

This ensures **secure and compliant digital banking** at scale.

### 5. Personalization and Engagement

OBDX enables banks to deliver **hyper-personalized experiences** through:

- Real-time customer insights and behavioural analytics
- Dynamic UI/UX customization based on user profiles
- Targeted offers, nudges, and contextual marketing

This transforms digital banking into a **relationship-driven engagement platform**.

## 6. Seamless Integration with Oracle FLEXCUBE and Beyond

When deployed alongside **Oracle FLEXCUBE**, OBDX offers:

- Deep integration with core banking processes
- Real-time data synchronization and transaction visibility
- Unified customer and product views across channels

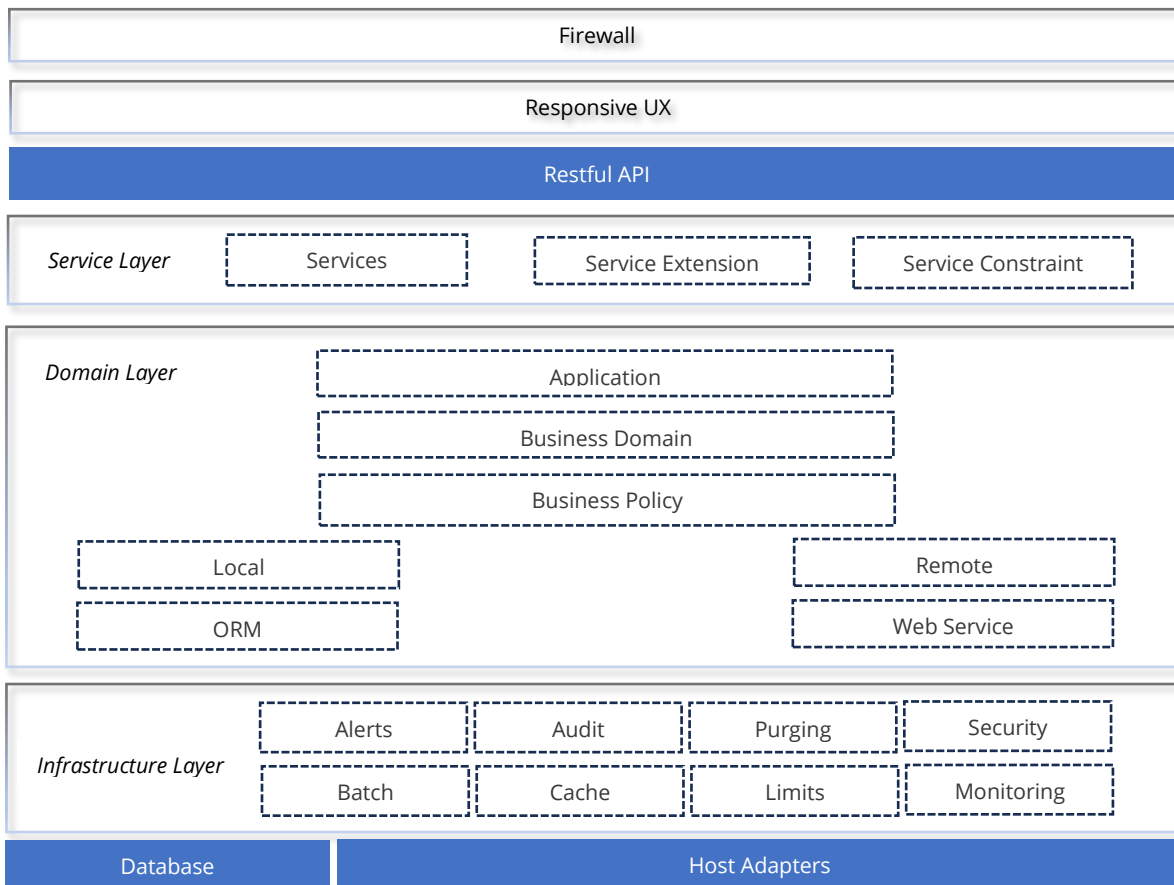
It also integrates easily with third-party systems, CRMs, and analytics platforms making it a **central hub for digital innovation**.

### Why OBDX is the best fit for Digital Banking transformation.

- **Unified platform** for retail, corporate, and SME banking
- **Cloud-native and scalable** for rapid growth and innovation
- **Open and extensible** for fintech collaboration and ecosystem play

**Proven globally** with deployments across 80+ countries

### Oracle Banking Digital Experience Technology Architecture



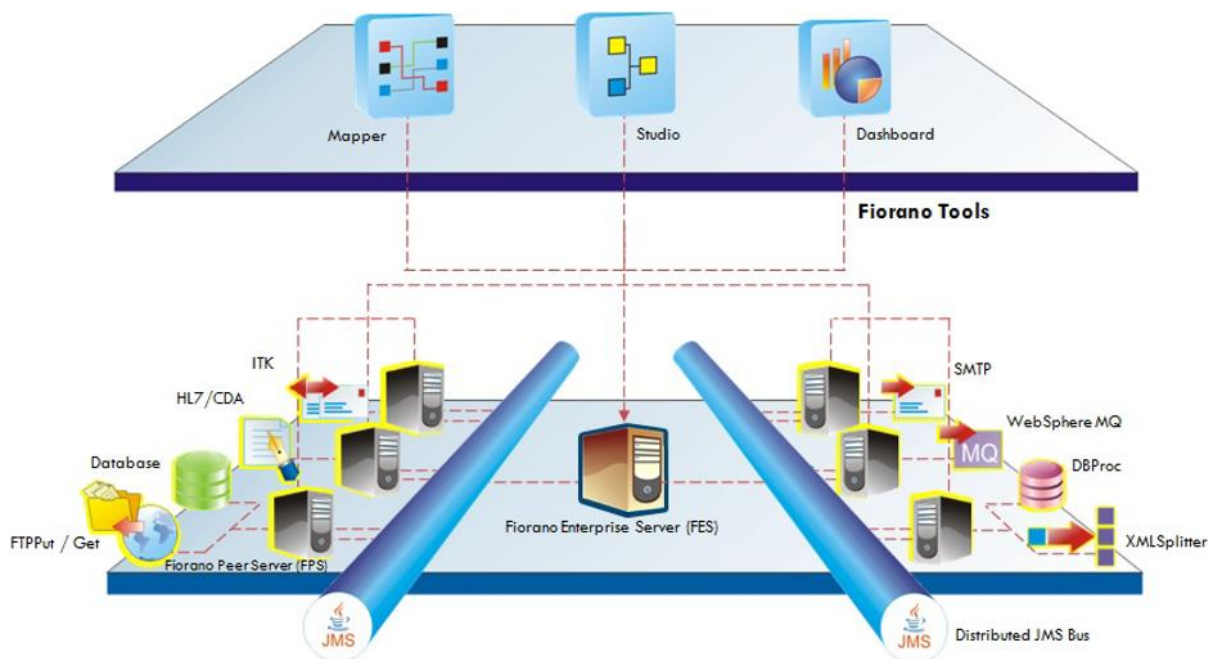
- Domain Driven Design
- Modern & Responsive UX
- REST as a first-class citizen
- Extensible Business Services
- Adapter to Host System with prebuilt integration with Oracle Core Banking/FLEXCUBE

### 3.3 Fiorano ESB & API Manager

The proposed solution is to introduce Fiorano ESB / SOA platform to NBM for developing and deploying service-oriented applications over an event driven architecture following SOA. This allows NBM to integrate various applications, interfaces, integration with Oracle FLEXCUBE, Oracle ERP system and deploy business processes using a Standards-based, componentized approach.

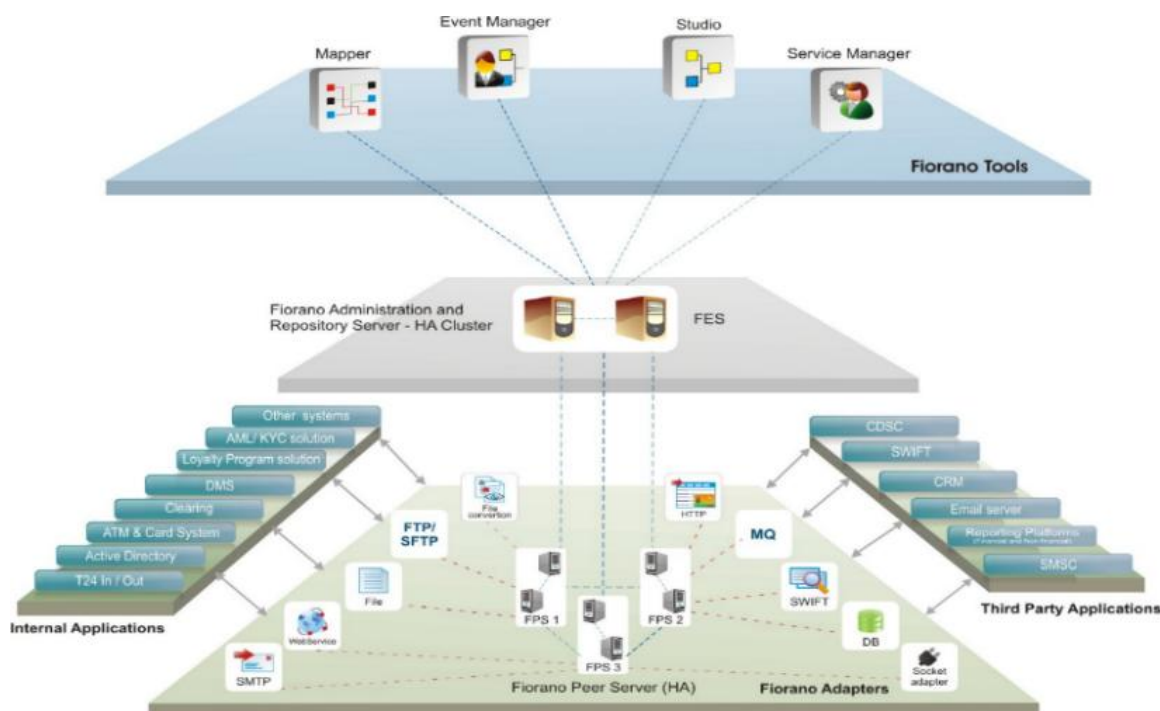
Users visually assemble instantly running solutions by drawing application and service nodes on a canvas through drag-and-drop of active reusable Microservice components. The lines between nodes comprise event flows via active message pipelines, collectively representing a user-defined event driven architecture. The visual model is the ready-to-run, fully implemented application, with no additional programming required.

The power of the Fiorano Platform lies in its unique implementation approach (based on distributed peer to peer architecture with centralized control) and the breadth of the out-of-the-box components bundled with the Suite. Various Service offered are service throttling, service prioritization, dynamic routing and event sequencing of interdependent events. Underlying Fiorano ESB is built on Fiorano MQ which provides the messaging support providing the asynchronous, event based, stored and forward communication between the applications. Various service offered under messaging are message priority, persistence and life span.



Bank can route through various interfaces via the Fiorano ESB and is able to do core banking integration with Oracle FLEXCUBE and ERP integration with Oracle ERP system.

## FIORANO INTEGRATION PLATFORM/ESB:



### Fiorano ESB features:

#### Hybrid, Elastic Infrastructure:

- Enables efficient, scalable integration flows to be deployed across cloud-to-cloud or hybrid environments, combining the benefits of centralized management with the efficiency of distributed architectures in a single platform.
- Spawns peers as needed that understand how to interact with each other directly, avoiding a central chokepoint.
- Features including automatic application partitioning for performance optimization, runtime changes to running integration flows for dynamic "non-stop" extensibility, simplified failure recovery and high-availability and scalability via distributed message-pipelines.

#### Code-less Integration:

- Rich set of connectors to integrate, route, transform XML and non-XML data across multiple protocols including REST, JMS, HTTP, FTP, email and more.
- Graphical microservice creation with support for native services in Java, C, C++, C# and various scripting languages.
- Intuitive microservice-assembly and choreography with a late-binding, runtime-extensible application architecture and flexible exception handling.

#### Cloud-native:

- Containerized deployment of atomic functions as microservices on elastic cloud-infrastructure.
- Service-mesh layers support East-to-West functional (e.g. routing) and non-functional (e.g. security policies and quality of service) mediation of service-to-service traffic.

#### Scalability:

- Peer-to-Peer architecture promotes a linear 'build as you grow' model, allowing an enterprise to add software resources in the form of Fiorano Peers at network end-points to absorb additional load on the platform.

- With dispersed computation and parallel data flow between nodes, Fiorano Peers scale naturally and seamlessly with the addition of new nodes and Enterprise Services across the network.
- With Fiorano, Commercial Bank of Africa grew from 100,000 customers to 38 million clocking over 1 billion in transactions a month.

#### **Security and Governance:**

- Each Fiorano Microservice is fully decoupled from other services, can be developed multiple supported languages and governed independently.
- Distributed security model with multiple levels of authentication and authorization.
- Controlled deployment of services across network end-points, with automatic "one-click" transitions across the software lifecycle (development, QA, staging, and production).
- In-built governance for distributed services with centralized policy management.

#### **Standards-based:**

- Implements standards for communication, connectivity, transformation and security, enabling application interoperability.
- Supports industry standards for integration including REST APIs, Open APIs, OData, Jason, GraphQL, event streams, Java, Web Services, and XML.

#### **Microservices-centric:**

- Easy microservice orchestration and choreography enabling organizations to quickly adapt to evolving external business and environmental events.
- Allows each individual microservice to be independently configured, managed, updated and redeployed without disrupting other services or processes.

#### **Kubernetes:**

- Supports containerization by bundling applications with pre-configured files to facilitate quicker deployments. These applications can be deployed, managed, monitored, and scaled with Kubernetes.
- Supports automatic horizontal scaling of microservices wherein nodes can be increased when demand increases and decreased when demand decreases.

#### **Event-based:**

- Fiorano's event-based architecture facilitates asynchronous communication in cloud, on-premises or hybrid deployments to enable easier monitoring at runtime, external callout hooks for workflow monitoring, replay of failed data and integration with big data engines.

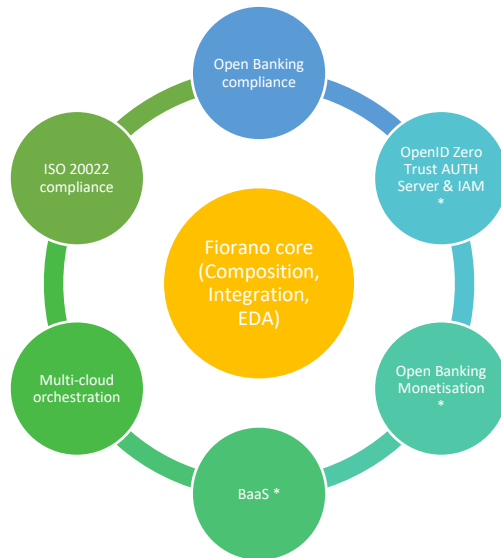
#### **Benefits**

- Lower complexity than point-to-point integrations
- Scalability: Fewer connections between applications and centralised management
- Process Orchestration: Native support for service orchestration allows the easy exposing of services that can be leveraged by Business Process tools
- Reuse of existing services
- Improved communication: Routing and Transformation of disparate data forms and transport protocols
- Better flexibility: Business processes are easier to change
- Cost savings through economical and sustainable integrations
- Data sharing across services and applications
- Improved decision making from higher quality data and improved transactional control

## ESB and API Management Platform

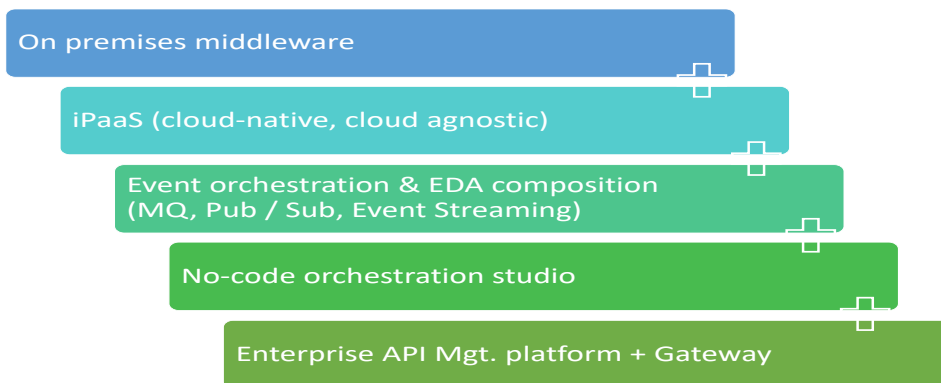
Fiorano’s technology consists of a core underlying Event Driven Architecture based, no-code integration and orchestration platform, which has matured in mission-critical production deployments globally since 1996.

Core capabilities are enhanced through pre-built solution packs / accelerators which offer easy compliance to standards based regulatory requirements such as Open Banking and ISO 20022 (MX/MT) compliance, and complementary 3<sup>rd</sup> party add-ons for areas such as BaaS, OpenID FAPI compliant IAM, and Open Banking monetization if required.



## Fiorano Core Platform

Fiorano’s core platform combines essential enterprise grade features and capabilities from normally independent products such as:



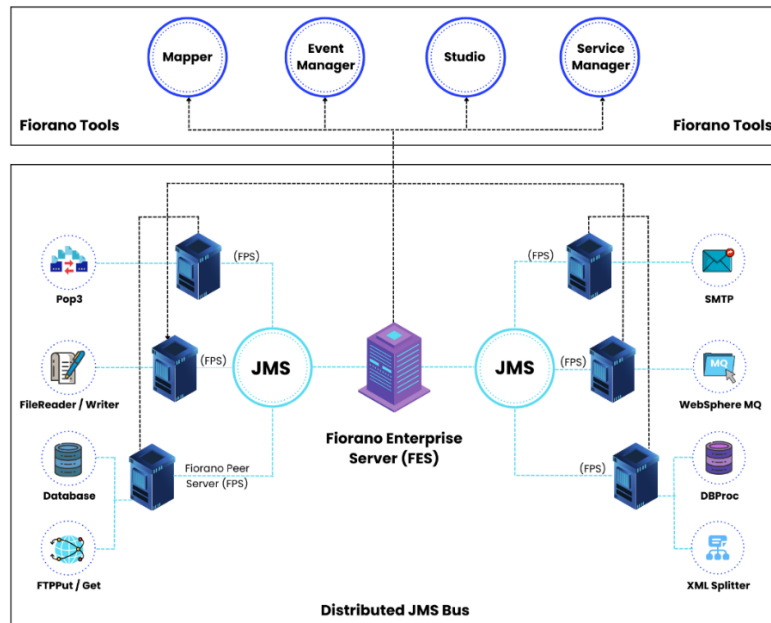
The core / foundational modules shown in the previous page deliver essential capabilities for organizations looking to modernize application portfolios.

## Fiorano Middleware / ESB

Fiorano ESB, is a Technology platform to integrate heterogenous applications, data, devices, APIs, and events across diverse computing environments. Fiorano ESB is a completely unified, self-contained

platform that eliminates dependency on any external or third-party software infrastructure platforms or services.

Below is a visual representation of Fiorano’s centrally managed distributed peer-to-peer architecture:



**Distributed State Management:** Fiorano has no centralized state store. Instead, state information is maintained in the messages or event streams themselves. Therefore, any peer server can freely exchange information with any other server or integration endpoint in the network without losing the corresponding state information.

**Dynamic Deployment of Microservices:** Automated agent-based dynamic deployment of microservices to any endpoint across the network, whether in multiple public clouds, on premises, or private data centers.

**Automated Event-Driven Microservices:** Automate the creation, configuration, management, and service interaction of messages (topics and queues) and application code between distributed microservices from a central location with zero programming. Simply select and connect your microservices in the event process composer, define the data model, and deploy the microservices to your Kubernetes clusters, and the rest handles itself.

**Real-Time Configurable Event Streams:** Developers can make configurations to event streams or debug on the fly with initiating downtime.

### Fiorano ESB – Key Features

- **Message-driven Microservices model:** Defines a coarse-grained, message-driven model for Enterprise microservices, enabling each microservice to execute as an independent entity that is not tied into the context of execution until runtime, simplifying the componentization of existing Web Services, Database applications, Legacy, J2EE & .NET software assets, enhancing

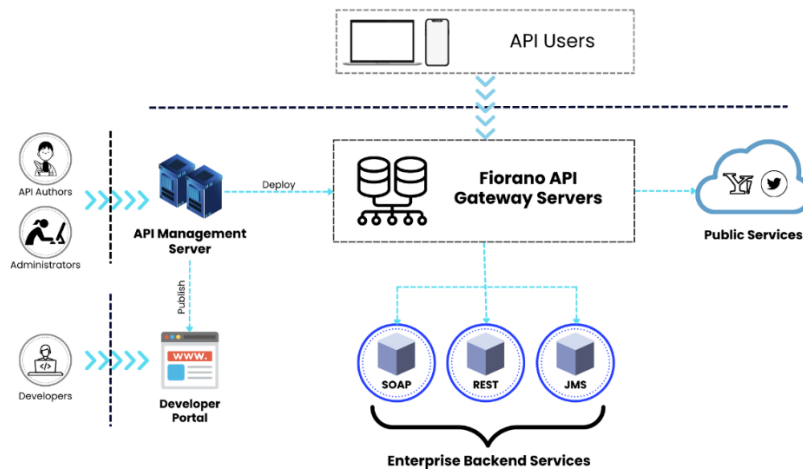
their reuse within event-driven business processes and automatically maximizing the parallelism concurrency within each process.

- **Unbounded Performance and Scalability:** Peer-to-peer messaging obviates the need for events to traverse a central hub, enabling concurrent message-flows between distributed Microservices and exploiting all available parallelism within distributed integration processes; effectively reuses hardware resources at network endpoints, further reducing costs of operation
- **Distributed, Dynamics Deployment and Management:** Enables microservice deployment across the ESB infrastructure from any centralized location, allowing each individual microservice to be independently configured, managed, updated and redeployed without disrupting other services or processes.
- **Service-Level Failover and 24x7x Forever Availability:** Enables failover instances of Microservices to be dynamically deployed on remote ESB nodes based on multiple triggers, creating self-healing application networks and ensuring continuous availability under all operating environments.
- **Guaranteed message delivery:** Ensures all messages within integration processes are reliably delivered to their destinations over a standards-based JMS API, with support for multiple additional protocols, without the need for applications to manage data retransmissions.
- **REST and Web Services Support:** Implements REST, WSDL, SOAP and UDDI standards, enabling easy, reliable and secure integration of Web-services into message-driven integration processes.
- **Comprehensive Security:** Provides a flexible framework for authentication, authorization and encryption, with support for J2EE, LDAP and other security standards, adapting to a wide range of federated enterprise security policies.
- **Event-Process Orchestration:** By enabling message-flows between distributed Microservices to be set up dynamically by the underlying middleware, allows the logical process design to be mapped directly to physical services distributed across the ESB, empowering non-technical "citizen integrators" to compose, deploy and modify simple business processes.
- **Support for multiple protocols and transport:** Allows users to choose the transport used for event-flows between distributed Micro Services at runtime, providing the flexibility to use multiple transports and protocols across any distributed event-process.

### Fiorano API Management (Optional)

Fiorano API Management is a full life cycle API management platform to securely build, run, expose, and govern APIs. Enterprises can publish, manage, and monetize APIs while monitoring and analysing their performance.

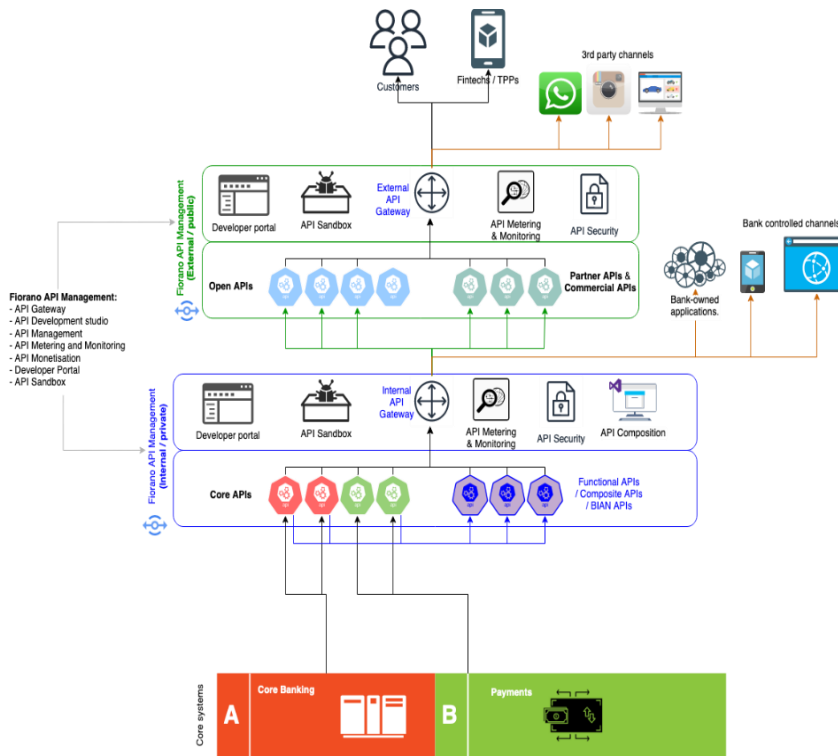
### Fiorano API Management Architecture



### FIORANO API MANAGEMENT Components

- **API Management Server:** This is the central server which acts as the repository for the API Projects created by users and deploys them to API Gateway Servers.
  - Hosts the API dashboard.
  - Incorporates an Analytics engine and performs various aggregation/ingestion functions.
  - Manages Role Based Access Control.
- API Gateway Server:
  - Acts as a reverse proxy server for the backend REST/SOAP based web services that are to be exposed as APIs.
  - Receive client requests and perform Caching, Traffic Control, Quota Management, authentication and Authorization before letting the request pass to a back-end server. Provides load balancing capabilities in case the target service is hosted on multiple servers.
- API Dashboard:
  - The dashboard, hosted in the API Management server, provides interfaces to:
  - Create API projects with zero coding.
  - Define various API products, Developers and Subscriptions.
  - Analyze API trends, investigate spikes, define various roles, environments, partners and more.
- **Developer Portal:** The developer portal allows enterprises to publish and socialize their APIs. Support is included for:
  - Self-signup of developers, allowing automatic subscription to public APIs.
  - Viewing API documentation related to various public and protected APIs.

## API Banking Architecture:



### Fintech connect APIs:

- B2C \*
- B2B \*
- BNPL / onboarding etc. \*

### External Open Banking API layer:

- TPP Onboarding
- OB Developer Portal
- OB Sandbox
- OB API Gateway
- OpenID - FAPI \*

### Internal API layer:

- Private APIs
- Core APIs
- Composite APIs (BIAN) etc.

### Orchestration and Integration:

- Low-code Integration services

Based on the [API Banking Architecture](#) / Technical architecture diagram, the current National Bank of Moldova's requirements focus mainly on Fiorano's Integration & Orchestration Layer for core banking integration, ERP integration, Low-code Integration services (legacy) and Event orchestration.

### Fiorano API Management comprises server technology that provides:

- **Security:** Security descriptors provide the enterprise with fine-grained control over which end-users and user-groups can access an API.
- **Metering:** For each API, a count is maintained of the number of times the API has been called, together with a list of which applications have made the calls. It is possible to set metering limits as well as charges on a per-call (or other) basis for all API calls.
- **Monitoring:** This allows system administrators to track which APIs are using the most resources (CPU, memory etc.) and to graph the related information to identify hotspots and contention. Using this information, system administrators may decide, for instance, to split API call-load over multiple API Management servers (provided the underlying solution allows for this scaling-out process).
- **Management:** A high-level view of the overall implementation of API Management across the enterprise, including a synopsis of the security, metering and monitoring processes running across multiple servers within and outside the enterprise firewall.
- **Developer Support and Socialization:** Exposed APIs need to be marketed or socialized to third-party developers; this is typically done via developer portals, either within or external to the API management platform, where available APIs are published.

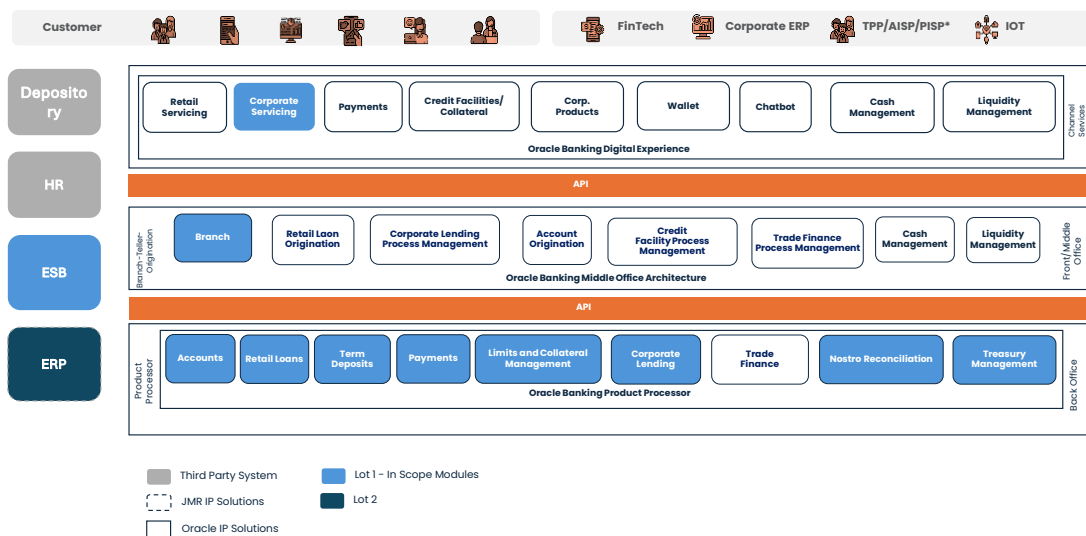
### Fiorano API Management Key Features:

- **API Gateway:** Fiorano provides a linearly scalable, agent-based API gateway. Agents (i.e. exposed APIs) have the inbuilt capability to handle policies to detect threshold overruns and exceptions/error conditions, with the generated events being monitored via a central Fiorano Enterprise Server that may be hosted either in the cloud or within the Enterprise firewall.
- **API Development:** The Fiorano platform allows developers to create APIs using a visual drag-drop-configure approach. Fiorano supports Webservice and REST-based API development.
- **Mediation:** The platform includes a powerful set of prebuilt mediation components for data transformation, routing, protocol transformation and more.
- **API Repository:** Fiorano includes an API Repository allowing developers to manage and test deployed APIs from a web-based console.
- **Monitoring:** Deployed APIs can be monitored for performance throughput, errors and overloads. Alerts can be configured for these conditions.
- **API Security:** Deployed APIs can be secured using WS-Security standards for web service-based APIs and HTTP-based authentication for REST based APIs.

# 4. Scope Definition

## 4.1 Proposed Solution Map

We understand the Bank/Institutions objectives to **adopt a modern, scalable, and flexible Core Banking System that enhances performance, customer experience, and regulatory compliance while supporting future innovations and integrations.**



## 4.2 Solutions in Scope

Based on the study of the business requirements provided in the RFP document, JMR proposes following set of modules which comprehensively covers the account business requirements and sets up the foundation for future business scaling.

- **Oracle Banking Product Processor (FLEXCUBE)** as the centralized Core Banking platform
- **Oracle Banking Digital Experience (OBDX)** for omni-channel digital engagement
- **Fiorano ESB & API Manager** for centralized enterprise service bus (middleware)

Following table lists down detailed Bill of Material (BOM) for the modules that needs to be licensed to enable above stated solutions.

Modules	Metric	Quantity
<b>FLEXCUBE CORE MODULES</b>		
Oracle FLEXCUBE Development Workbench	Application Users	1
Oracle FLEXCUBE Universal Banking Base	Account	5,000

Modules	Metric	Quantity
Oracle FLEXCUBE Universal Banking Current Accounts and Savings Accounts	Account	5,000
Oracle FLEXCUBE Universal Banking Retail and Small and Medium Enterprise Loans	Account	5,000
Oracle Banking Branch	Branch Account	5,000
Oracle FLEXCUBE Universal Banking Term Deposits	Account	5,000
Oracle FLEXCUBE Universal Banking Standing Instructions	Account	5,000
Oracle FLEXCUBE Universal Banking Nostro Reconciliation	Account	5,000
Oracle FLEXCUBE Integration Gateway	Account	5,000
Oracle Banking Treasury Management	\$M in Total Assets	100
Oracle Banking Extensibility Workbench	Application Users	1
Oracle Banking Enterprise Limits Management	\$M in Collaterals or Limits Under Management	100
Oracle Banking Enterprise Collateral Management	\$M in Collaterals or Limits Under Management	100
Oracle Banking Corporate Lending Bilateral Loans	\$ Million in Loan Book Size Perpetual	100
<b>ORACLE BANKING PAYMENTS</b>		
Oracle Banking Payments Cross Border	10K Transactions	1
Banking Payments ACH	10K Transactions	1
Banking Payments Book Transfers	10K Transactions	10
Banking Payments RTGS	10K Transactions	1
<b>Oracle Banking Digital Experience (OBDX)</b>		
Banking Digital Experience Base	Instance Perpetual	1
Oracle Banking Digital Experience UX Extension Kit	Application User Perpetual	1
Banking Digital Experience Corporate Servicing	Financial Services Subscriber Perpetual	30

### 4.3 Services In Scope

Services in scope entails implementation of the above listed modules in scope, which includes typically

- Requirements study
- Solution Design
- Business Configuration
- System Integration
- Custom Development
- Migration
- Integration & User Acceptance Test
- Production Ready

Macro level Scope of Work is summarized and classified below

#### 4.3.1 Oracle Banking Processor (FLEXCUBE)

1. **Installation and administration** of database and WebLogic.
2. **Install** FLEXCUBE as per the modules listed above.
3. Carrying out **Product Walkthrough** and Preparation of Business Parameterization Documentation.
4. **Parameterization and Configurations** of Business Products in the system.
5. Deliver Data Migration Strategy & Plan, Build Migration Scripts, execute mock runs, upload the data extracted by the Bank and provide the migrated data to the Bank for verification.
6. Deployment of the **patch set** released during the implementation.
7. **Enabling integration**, the following interfaces with FLEXCUBE using integration gateways as per the Interfaces list shared by the Bank.

System Type	Description/System Name
<b>Transactional Systems</b>	ERP
	Cash Management System
	R001 - Management of mandatory reserves
	O002 - Market Operations (SOP)
<b>HR Management Systems</b>	HR & Talent Management System
	Payroll
<b>Auctions Platforms</b>	Bloomberg
<b>Payment and Settlement Systems</b>	Swift Alliance Entry
	Automated Inter banking Payment System (SAPI)
	Instant Payments (MIA)
	Automated Domestic Payment system (ADPS)
<b>Web Portals</b>	W005 - SGED
	W003 - Corporate Internal Portal
	W002 NBM's official web page
<b>Other Internal Information Providers / Consumers</b>	SIRBNM
	Balance of Payments Statistical System
	Exchange Rate Calculation System
<b>External Systems</b>	CSD - Central Securities Depository
	Digital signature
<b>Shared Corporate Services</b>	Microsoft AD&SSO Services
	Email services
	PKI Infrastructure services
	SIEM Services
	Back-up services
	Archiving Services

8. Development and enablement of up to **75 customized reports**, with finalization to be carried out during the product walkthrough phase.
9. A provision of **2000 man-hours for customization**, with scope and finalization to be determined during the product walkthrough phase.
10. **User Training** for the Core users using “Train the Trainer” Methodology.
11. **Support System Integration Testing and User acceptance testing**
  - a. Guide SIT & UAT users with Application Functionality and Execution during the UAT.
  - b. Maintain the incident logs during SIT & UAT ensuring timely resolution of Defects raised.
  - c. Report the progress of all incidents (defects) and solutions encountered during UAT.
12. Dress rehearsal and Mock runs.
13. Provide necessary guidance for Preparation activities of Go Live.
14. **Three (3) months of Post Go-Live support** from the date of Go-Live.
15. **One (1) year warranty support** from the date of Go live.

#### 4.3.2 Oracle Banking Digital Experience (OBDX)

1. **Install** OBDX as per the modules listed above.
2. Carrying out **Product Walkthrough** and Preparation of Business Parameterization Documentation.
3. **Parameterization and Configurations** of Business Products in the system.
4. Deployment of the **patch set** released during the implementation.
5. Integrate OBDX with Oracle FLEXCUBE and the following interfaces.
  - a. SMS
  - b. E-sign
6. **User Training** for the Core users using “Train the Trainer” Methodology.
7. **Support system Integration Testing and User acceptance testing**
  - a. Guide SIT & UAT users with Application Functionality and Execution during the UAT.
  - b. Maintain the incident logs during SIT & UAT ensuring timely resolution of Defects raised.
  - c. Report the progress of all incidents (defects) and solutions encountered during UAT.
8. Dress rehearsal and Mock Runs.
9. Provide necessary guidance for Preparation activities of Go Live.
10. **Three (3) months of Post Go-Live support** from the date of Go-Live.
11. **One (1) year warranty support** from the date of Go live.

#### 4.3.3 Fiorano ESB and API Manager

1. Requirements Phase
  - a) Understand existing IT application landscape and architecture and various interface mechanisms available for each of the applications
  - b) Discuss technical performance requirements and thresholds
  - c) Identify the required Fiorano adaptors and infrastructure requirements
  - d) Discuss project implementation plan and requirements sign-off
2. Design Phase
  - a) Design system architecture to deploy Fiorano
  - b) Create test plan
  - c) Deployment architecture and test plan sign-off

3. Development Phase
  - a) Create custom components to address specific requirements
  - b) Create event processes (integration flows) based on Fiorano best practices
  - c) Document event processes
  - d) Unit testing of event processes
4. Integration Phase
  - a) Exposed interface – an API (Application Programming Interface) made available by the system for external users.
  - b) Needed interface – an API that an application requires to interact with another system's exposed interface.
5. Testing Phase
  - a) Functionality testing of event processes
  - b) Load testing of event processes
6. Go LIVE Phase
  - a) Run User Acceptance Tests (UAT)
  - b) User Training
7. Maintenance Phase
  - a) Provide maintenance and support services for the deployed event processes
  - b) Provide ongoing monitoring services of event processes
  - c) Conduct quarterly optimization, review/audit of event processes.
  - d) **Three (3) months of Post Go-Live support** from the date of Go-Live.
  - e) **One (1) year warranty support** from the date of Go live.

## 4.4 Proposed Timelines

JMR believes based on current information and understanding and modules proposed in scope, FLEXCUBE, OBDX and ESB can be tentatively implemented in **eleven (11) months go live followed by three (3) month hyper care period along with warranty support for a year**. The final time plan and roll out approach can be firmed up in mutual discussions with the Bank.

Activities	M1	M2	M3	M4	M5	M6	M7	M8	M9	M10	M11	M12-M22
Inception/Discovery/PWT	█											
Installations (all Dev, Mig, testing, Prod & DR)	█	█										
Product Parameterization	█	█	█	█	█	█						
Migrations (Multiple Runs for refinement)	█	█	█	█	█	█	█	█	█			
Integrations	█	█	█	█	█	█						
Customisations		█	█	█	█	█						
Prepare for SIT						█						
SIT Execution							█	█				
SIT Support							█	█				
Prepare for UAT								█				
UAT Execution									█	█		
UAT Support									█	█		
Final Migration Prep & Go Live										█	█	
Warranty & Post Go Live Support											█	█

## 4.5 Key Project Team & Task Assignment

JMR has carefully assigned the following team to take up the planned transformation project. The CV's provided as part of Annex 26 and Annex 27 are based on current visibility into availability and Bank's timelines as outlined. We will firm up these CVs and provide equivalent profiles in case of change in availability status.

Sl. No.	Roles	Role on the project Responsibilities
1	Project Director	<ul style="list-style-type: none"> <li>Coordinate Project Managers for regular updates on project status.</li> <li>Develop a timeline that captures milestones for projects.</li> <li>Create budget and monitor finances to ensure you keep to the budget.</li> <li>Recommend changes to keep projects on track.</li> <li>Make alternative plans if initial project planning is inadequate.</li> <li>Present to investors, business partners and company executives.</li> <li>Review, approve or deny proposals.</li> <li>Contract with outside agencies as needed.</li> <li>Track planned effort against actual effort and make changes as needed.</li> </ul>
2	Project Manager	<ul style="list-style-type: none"> <li>Project Manager will be responsible for the entire Project including articulating the project plan a with the team and managing the team's performance of project tasks.</li> <li>Secures acceptance and approval of deliverables from the Project Sponsor and Stakeholders.</li> <li>Responsible for communication including stakeholder management including status reporting, Risk management, escalation of issues that cannot be resolved in the team.</li> </ul>
3	Senior Technical Expert	<ul style="list-style-type: none"> <li>Senior Technical Specialist has strong knowledge of solution architecture.</li> <li>Has Required technical skills to understand the requirements and propose technical design specification document.</li> <li>He/she is responsible for taking corrective measures on technical issues related to the solution.</li> <li>Provide guidance for all technical members of the team when it comes to solution design, solution implementation and conducting technical trainings.</li> </ul>
4	Techno-Functional Consultant	<ul style="list-style-type: none"> <li>Responsible for implementing projects by understanding requirements and performing necessary parameterizations.</li> <li>Link between business teams and technical teams.</li> <li>Manage customer expectations &amp; translate business and functional requirements into application solutions.</li> </ul>

Sl. No.	Roles	Role on the project Responsibilities
		<ul style="list-style-type: none"> <li>• Closely work with the Project Manager and support overall delivery of the solution.</li> <li>• Follow up on testing and guarantee quality of the solution.</li> <li>• Take ownership of the assigned modules in the project and interact with other team members.</li> <li>• Participate in project progress meetings and proactively identify areas of potential risk.</li> <li>• Continuously develop and extend knowledge by conducting training sessions.</li> </ul>
5	Technical Consultant	<ul style="list-style-type: none"> <li>• As a professional he/she is determined to ensure that items produced are in line with the technical designs and specification of clients.</li> <li>• A competent technical team member possesses a combination of both problem-solving and innovation skills to attend to several technical production challenges.</li> <li>• His/her role in the organization also includes implementing changes to previously designed software to meet client demands and specifications.</li> <li>• Prepare technical documentation and present it to the stakeholders.</li> </ul>
6	Senior Functional Consultant	<ul style="list-style-type: none"> <li>• Expert in business systems analysis and apply the knowledge in performing required parameterization and launch new products in the system.</li> <li>• Articulate the business requirements document into functional specification documents.</li> <li>• Translate business requirements into IT application impacts and business functions impacts &amp; aware of end-to-end process in system to Business Analysis Process.</li> </ul>

### **Resource Requirement from Bank**

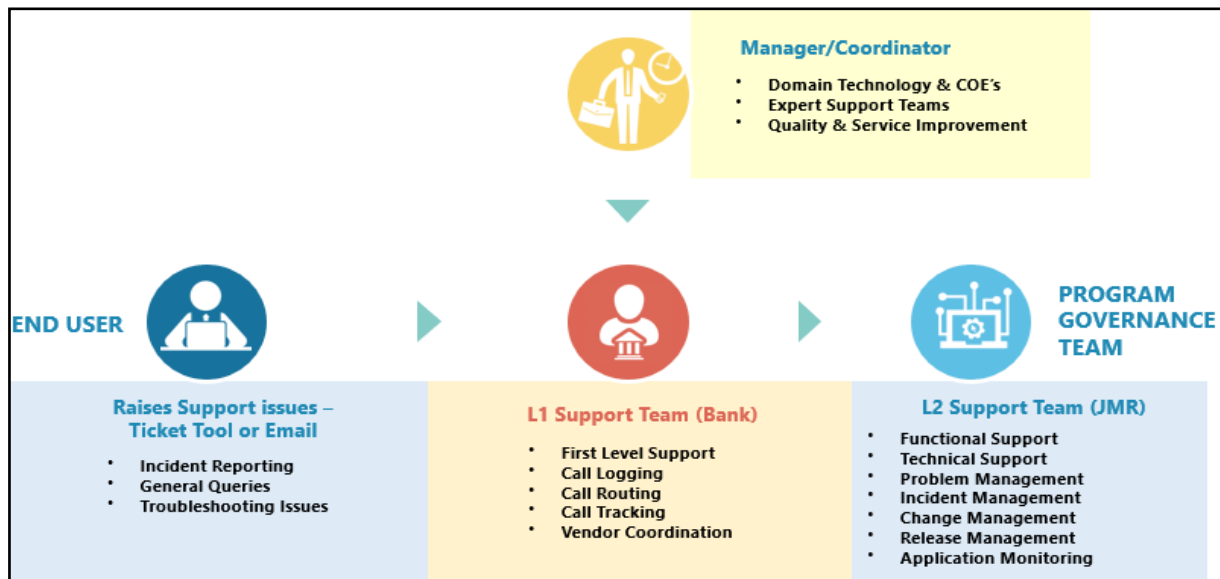
Bank needs to provision dedicated resources during the implementation of proposed solution. This is critical for the success of the project. An indicative list of team members from Bank's side is as follows:

- Business/ domain experts for requirements definition, solution alignment, test plan, test case, test data and test execution
- Source system owners / technical experts /IT team for infrastructure support and integrations
- Project coordinator/project manager
- Remote Access

## 4.6 JMR Support Model

JMR's support model for providing application management and support for Oracle applications. The designated team will broadly look at the activities covering both run the business and grow the business activities. Approach and the support process flow followed by JMR is shown in below diagram.

Additionally, our team would be aligned and structured to ensure cross utilization of resources ensuring optimum knowledge acquisition and sharing amongst team members, imparting knowledge to the Bank/Institution's IT & business users, as necessary.



We believe that, with JMR's unique combination of vast experience, deep domain expertise in transformation & support projects, constant focus in technology innovation and thought leadership in providing consultative services - makes us an ideal, valued, and long-term partner of your esteemed Bank/Institution. JMR shall provide post go live support as part of Implementation. Please refer below section for services covered as part of Post Go Live Support.

#### 4.6.1 Warranty & Post Go Live Support

Post Go Live Support is an important phase of the Project Lifecycle to bring stability to the System and is planned to be hybrid. We do have incident/issue management procedures in place that has evolved over a period of live project experiences. We also assist in providing knowledge transfer to Bank/Institution's support team. Working as Bank/Institution's extended arm, our post implementation maintenance and support package cover both run the business activities and grow the business activities.

JMR shall support the functioning of parameters and customizations that have been set up, tested, and certified during the UAT phase, and provided solely by JMR during the implementation and post "Go Live" support period. This support shall not cover any parameters, reports, interfaces, or customizations that were not delivered by JMR, or have been subsequently modified by any party other than JMR after the UAT certification and Go Live.

JMR provide supports through the following modes:

- Telephone hot line.
- Remote Access (Yes)
- Travel to site (Yes) from JMR Regional Support

Annual Maintenance services are covered under MOS (My Oracle Support portal). Details of the portal are available in the link: <https://www.oracle.com/us/assets/lifetime-support-financial-services->

[069218.pdf](#). 24\*7 helpdesk support will be covered under the AMC. This portal shall be made available to Bank/Institution's Business and IT users for issues logging/tracking and resolution.

### Service Level Agreements for Issue Resolution

JMR will comply with the following SLAs for turnaround time for issue response and resolution.

- JMR will comply with the following SLAs for turnaround time for issue response.
- JMR shall provide the Services in accordance with the below service level depending on the criticality of the Problem as determined jointly with the Bank/Institution and JMR while reporting the Problem.
- The table below describes the issues with respect to the level of severity of the issue and the urgency of the issue.

Priority	Low	Medium	High	Critical
<b>Severity</b>	<ul style="list-style-type: none"> <li>• The issue or problem causes a minor loss of service</li> <li>• No hindrance to the client's business operations.</li> <li>• Workaround is available</li> </ul>	<ul style="list-style-type: none"> <li>• Interruption to the client's work but Bank/Institution's work has no major loss of Operating Capability</li> <li>• Workaround likely available</li> </ul>	<ul style="list-style-type: none"> <li>• Interruption to critical processes affecting individual user.</li> <li>• Any specific feature or module not working causing business impact</li> <li>• No workaround available</li> </ul>	<ul style="list-style-type: none"> <li>• Interruption to critical business processes affecting several users</li> <li>• An incident leading to 100% outage of the application</li> <li>• No workaround available</li> </ul>
<b>SLA Targets</b>				
<b>Response Time</b>	Within 48 Hours	Within 24 Hours	Within 12 Hours	Within 2 hours
<b>Resolution Time</b>	The timelines for this will be determined in consultation with the Bank/Institution on case-to-case basis	Workaround within 48 Business hours from receipt of requested Initial information from the Bank/Institution	Workaround within 16 Business hours from receipt of requested information from the Bank/Institution	Workaround for 95% of reported problems in 6 hours from receipt of Initial information requested from the Bank/Institution and for 5% within 8 hours from receipt of requested information from

Priority	Low	Medium	High	Critical
				the Bank/Institution

Note: Response time is defined as the time taken by a JMR staff to begin troubleshooting from the time the issue is reported.

## 4.7 Scope Exclusion

- Any activity not defined in the Scope.
- Any customizations in the proposed Oracle applications or application modules, other than those specifically stated in Scope section.
- Changes, if any, in the “Kernel layer” of the application, however JMR would co-ordinate with Oracle’s product engineering team to get the required fixes or changes.
- Extraction & Transformation of Data from Source/Legacy Systems.
- Changes in third party systems needed for the integration.
- Requirement Document Creation.
- Test Plan, Design, Test Cases and Test Data Preparation.

## 4.8 Prerequisites

The following high-level infrastructure level activities are to be completed by Bank before commencement of the Oracle technology software implementation.

- Infrastructure Readiness (Hardware, software, DNS servers, network, firewalls, security controls, virtual machines, and operating system, storage, Load Balancing etc. setups for all the environments prior to the commencement of the project).
- Separate VPN access for the implementation team.
- Procure all software licenses & access to jump box for downloading software binaries and patches.
- Procure and install Oracle Analytical Publisher/Server as part of technology software.
- Business Requirement Documents.

## 4.9 Assumptions

1. A lead time of two (2) to three (3) weeks is required for JMR Infotech to on-board the Project Resources after Contract signing /PO issuance.
2. Project would be delivered in a hybrid model (onshore/nearshore/offshore). Bank to provide good quality VPN access to deliver the services under scope. However, upon the request from Bank and need, resources can be deployed onsite.
3. Procure valid Google Developer account and Apple Developer account (as an organization) to avail Mobile app on Play store and App Store respectively.
4. Procure valid SSL certificate for availing public access to OBDX URL.
5. Avail and provide access to Oracle CSI (Customer Support Identifier)

6. Following environments would be needed during the implementation.
  - a. Development
  - b. Migration
  - c. SIT & UAT
  - d. DR and PROD

We also suggest additional environment for stress testing.

7. Macro level Project Plan and Timelines are indicated in this proposal; however, this plan would be modified during the inception phase of the project in consultation with the Bank, which will serve as a baseline plan throughout the project. Any Change on the signed of baseline plan would go through change control process, so that accountability can be fixed for the delays caused, and corresponding CR can be approved by the bank.
8. If these delays are not attributable to JMR and the delay caused cannot be recovered with the planned effort, additional effort and cost would be estimated and submitted to the Bank as CR, so that the Bank can review and approve the same before making a formal adjustment to plan in execution.
9. The proposed plan is based on five (5) working days a week, Saturdays and Sundays as holidays, however during the inception the project plan would also incorporate actual holidays as well to determine precise timeline.
10. All Project related communication including Project Plan, Status Reports etc. will be in English.
11. The current estimates have been calculated based on high level requirements furnished in the RFP. However, while doing the inception detailed study of the requirement would be done which may have impact on estimated timelines, efforts and cost. This change will be discussed with the Bank and will be mutually agreed upon.
12. Once the detailed Scope is defined and signed off during the inception, any change in scope thereafter would attract a CR which may or may not have cost & time implications, depending on the nature of addition to the scope.
13. The Software shall be deemed Live /accepted by the Bank, and the project is complete, if – Software is used in a production environment or in a production like manner by Bank, including pre- production pilot or similar exercises post User Acceptance Testing completion.
14. Proactive Monitoring of Patch sets Versions: JMR will actively monitor the project's progress from the finalization of the project plan to ensure that Bank remains on the latest (N) or latest-1 (N-1) Patch sets version. In the event of significant project delays, such as SIT/UAT infrastructure unavailability or timeline slippage beyond 12 months, JMR will advise the Bank when there is a risk of falling to N-2 Patch sets or beyond.
15. Assessment of Patch sets Updates: If the project timeline slips and the initial Patch sets version is outdated (N-1/N-2 to the latest version), JMR will assess the additional effort required to upgrade to the latest (N) or latest-1 (N-1) Patch sets. This will be done in collaboration with the client to minimize any disruption to the project.
16. Impact of Patch sets Updates on Project: If a Patch sets upgrade is required during any phase of the project, it will be communicated to the client, and any additional effort, costs, or changes to the project schedule will be mutually agreed upon through a formal Change Request (CR) process
17. Bank will assigned required team with expertise on the systems that needs to be integrated with the new Core or Digital banking.
18. It is assumed that existing backup policies/solutions exist and can be used for this solution.

## 4.10 Banks Obligations

Please find below the list of activities which need to be taken care of by Bank with respect to the implementation services to be delivered by JMR.

1. Designate a SPC (single point of contact) who shall be the focal point for JMR communications relating to this engagement and shall have the authority to act on behalf of Bank in all matters regarding to the engagement.
2. To form a dedicated Core Team consisting of Technical & function staff to exclusively work in the implementation project.
3. Designated SPC shall be responsible for co-coordinating with other third-party vendors engaged by the Bank directly.
4. Make necessary approvals required from the relevant authority for JMR's consultants to deliver services under the stated "In Scope" Section of this engagement.
5. The JMR team should be provided with appropriate remote/VPN connectivity and sufficient access rights to the Development, UAT, and Production environments. This will enable effective offshore support when needed.
6. Bank shall extract and provide the required data from source system to the proposed applications.
7. Bank will ensure timely availability of all environments with necessary hardware resources & refresh production data during various stages of mock migration. Any delay in the data availability from the core system will impact the overall project timeline.
8. Business and Technical stakeholders from Bank shall be available for discussions as per the schedule and the relevant systems documents shall be shared with JMR consultants for review.
9. Preparation of SIT/UAT Test Cases, Scenarios, scripts and execution of SIT/UAT will be done by Bank users and JMR Resources will provide technical and business support during the execution of the UAT.
10. Provide the answers to the questions/queries raised by JMR team within two (2) business days, to ensure that the project schedule will not be impacted.
11. Sign-off to be provided within two business days from the date of submitting the deliverables. In case of any delay beyond two (2) business days, such deliverables shall be deemed accepted to ensure project schedule is not impacted.
12. Bank shall seek/provide appropriate access to Bank's data/information pertinent to the application development during the tenure of the engagement. This includes all documentation pertaining to the current system implemented at Bank.

# 5. Execution Methodology

At **JMR Infotech**, we adopt a **hybrid execution methodology** that blends the **discipline of Waterfall** with the **flexibility of Agile**, ensuring structured delivery while remaining adaptive to evolving business needs. This approach is further strengthened by our **Centre of Excellence (CoE)**, **AI-powered execution tools**, and **world-class Risk and Quality Assurance frameworks**.

Our execution methodology is anchored on five foundational pillars that drive precision and excellence.

## 1. Hybrid execution methodology (Best of Agile and Waterfall)

Structured and sequential phases to tightly manage scope in a fixed cost execution model, however, intelligently blends MVP and sprints in each phase of the project for agile delivery and early detection of anomaly in the deliverables.

## 2. CoE (Centre of Excellence) provides vertebral support to the project team.

Provide permanency in domain expertise, reusable assets and accelerators. It also prescribes and monitors continuously standardized execution frameworks, enabling agile onboarding of right team and knowledge transfer, thereby providing **consistency, speed and quality**.

## 3. AI powered Execution with our SensAI Enterprise Platform.

Its harnesses capabilities of generative AI, and open source LLM to fuel agility in all the important phases of the project, right from solution designing, customizations and quality assurance, **thereby bringing agility by 25%-30%** without compromising quality.

## 4. Risk and Quality Assurance: Built-In, Not Bolted On, we embed Risk and Quality Assurance (QA) throughout the lifecycle.

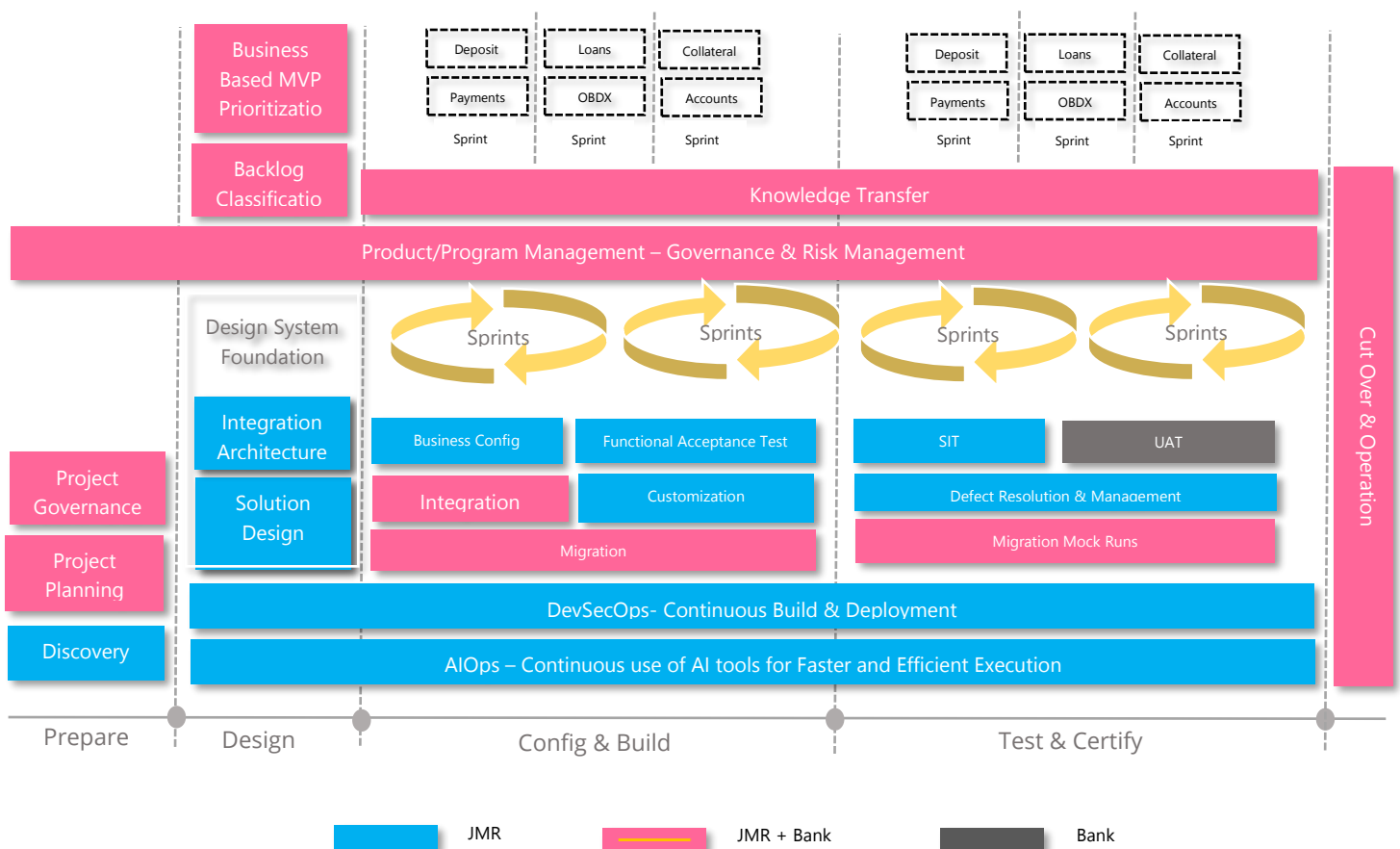
- Shift-left testing** and continuous integration for early defect detection
- Regulatory compliance validation** and audit readiness
- Automated test suites** for regression, performance, and security
- Risk heatmaps and mitigation plans** powered by AI insights

This ensures **optimum delivery, regulatory alignment, and operational resilience**

## 5. Governance and Transparency.

It includes a **joint steering committee** for strategic alignment and transparency right from the start of the project. The content discussed in these committees is fed by **project management dashboards**, which keep track of the day-to-day execution. These dashboards also include a dedicated section which monitors ever evolving **risk scenarios along with mitigation strategy**.

## Execution Methodology



This **strategic blend of structure and agility**, powered by **AI**, anchored by a **Centre of Excellence**, and governed by **rigorous quality and risk controls** helps us ensure that Core Banking transformations are not only delivered on time and within budget but also with **innovation, resilience, and long-term value**. JMR confirms adherence to the proposed methodology, standards, and best practices for successful project execution.

A standardized RACI Matrix has been defined to clearly outline roles and responsibilities, ensuring accountability and smooth execution across all project phases.

Task	Responsible	Accountable	Consulted	Informed
Project Setup & Project Management (Tracking & Reporting)	JMR /Bank	JMR /Bank		
Gather Requirements	JMR	JMR	Bank	Bank
Demonstrate/ Training the trainer Product	JMR / Bank	JMR / Bank	Bank	Bank
Identify gaps and estimate effort to resolve	JMR /Bank	JMR	Bank	Bank
Installation and setup of hardware, operating system,	Bank	Bank	JMR	JMR

Task	Responsible	Accountable	Consulted	Informed
database etc. (required for Oracle Applications)				
Installation of Oracle Applications	JMR	JMR	Bank	Bank
Project Training (Train the trainer)	JMR	JMR	Bank	Bank
Parameterization Design	JMR /Bank	JMR	Bank	Bank
Parameterization Build	JMR	JMR	Bank	Bank
Mass Parameterization Upload	JMR	JMR	Bank	Bank
Migrate Out of box reports in BIP	JMR	JMR	Bank	Bank
Migration approach & data format	JMR	JMR	Bank	Bank
Extract migration data from Legacy System	Bank	Bank	JMR	JMR
Upload data to Oracle applications in respective environments	JMR	JMR	Bank	Bank
Upload data to Oracle Applications (conversion tests)	JMR	JMR	Bank	Bank
Reconciliation of conversion	JMR /Bank	JMR /Bank	Bank	Bank
Create test cases and scenarios	Bank	Bank	JMR	JMR
Review UAT test cases and scenarios for fit to product	Bank	Bank	JMR	JMR
Execute UAT test cases	Bank	Bank	JMR	JMR
Bug fixing of Oracle Applications	JMR	JMR	Bank	Bank
All other bug fixing	JMR	JMR	Bank	Bank
Interface error analysis	JMR	JMR	Bank	Bank
Deployment	JMR	JMR	Bank	Bank
Production installation	JMR /Bank	JMR /Bank	JMR	JMR
Execute Mock Conversion (As per final data migration)	JMR	JMR	Bank	Bank
Post Go Live Support/Warranty Support	JMR	JMR	Bank	Bank

Adhering to the best practices, the execution methodology prescribes project execution in following stages, each with focused objectives and deliverables associated. All these deliverables and execution responsibility would play out during the project execution as depicted in the above diagram.

## 1. Inception

### Objectives:

- Establish project vision, scope, and governance.
- Gather and analyse detailed business requirements.
- Define high-level architecture and implementation roadmap.

**Key Activities:**

- Stakeholder identification and engagement.
- Requirements workshops and interviews.
- Scope definition and prioritization.
- Risk assessment and mitigation planning.

**Deliverables:**

- Project Charter
- Business Requirements Document (BRD)
- Detailed Scope Statement including FIT/GAP matrix
- Detailed Project Plan
- Risk Register
- Communication Plan

**2. Business Configuration****Objectives:**

- Configure the software product to align with business processes.
- Customize parameters, rules, and workflows.

**Key Activities:**

- Fit-gap analysis
- System configuration based on BRD

**Deliverables:**

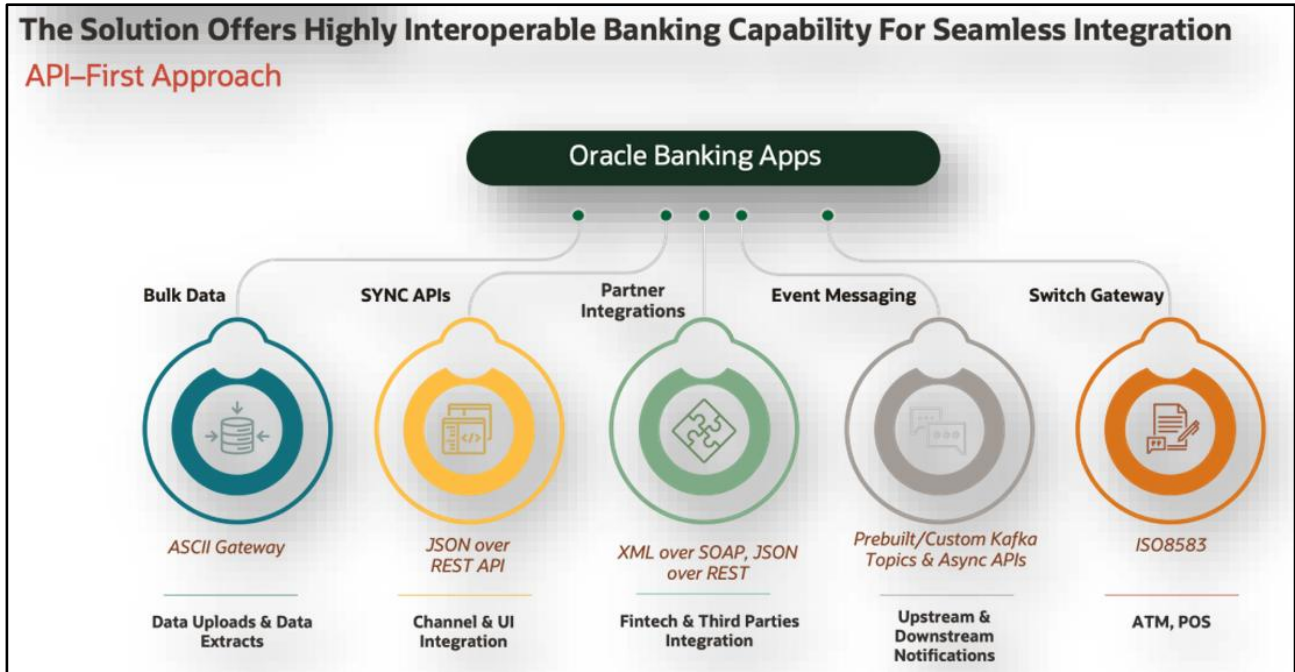
- Configuration Design Document
- Parameterization Workbook
- Updated BRD with configuration mapping
- Prototype/Demo environment

**3. Integration****Objectives:**

- Ensure seamless data and process flow between the new system and existing systems.

**Key Activities:**

- Define integration points and data exchange formats
- Develop and test APIs/interfaces
- Set up middleware or integration platforms



**Deliverables:**

- Integration Architecture Document
- Interface Control Document (ICD)
- Working Interfaces/APIs

**4. Migration Phase**

**Objectives:**

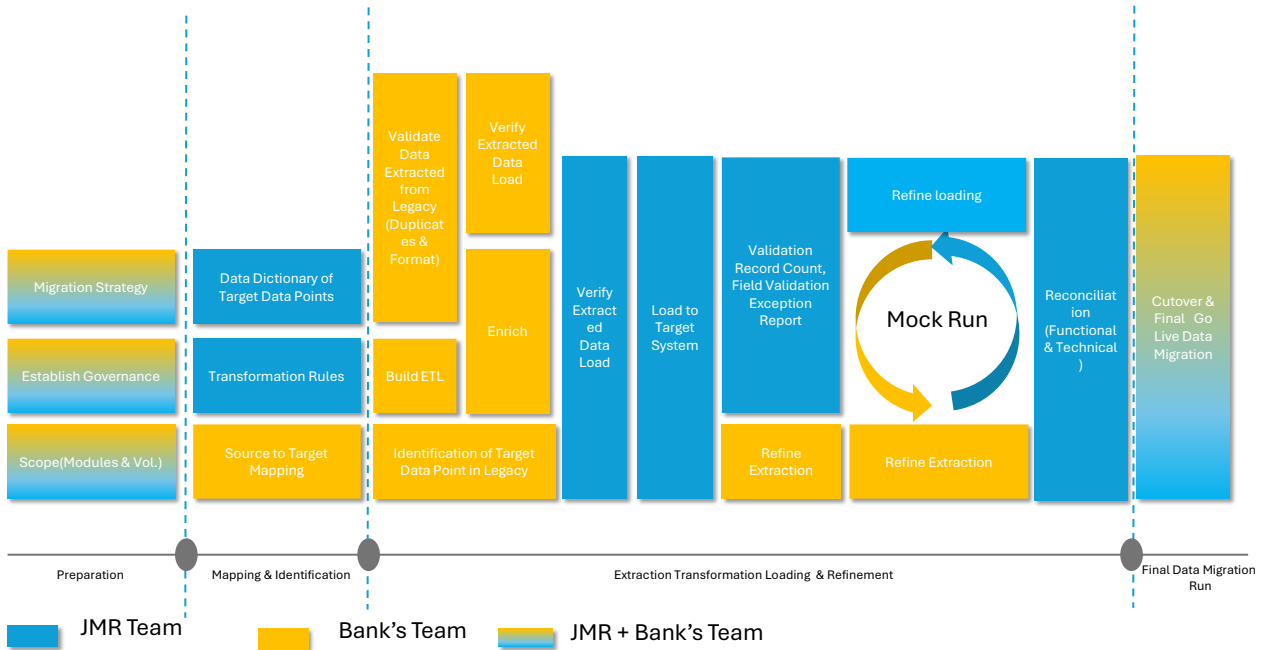
- Migrate legacy data to the new system with accuracy and integrity.

**Key Activities:**

- Data mapping and cleansing
- Develop migration scripts/tools
- Perform trial migrations and validations

**Deliverables:**

- Data Migration Strategy
- Data Mapping Document
- Migration Scripts
- Migration Validation Report



## 5. Training Phase

### Objectives:

- Equip Core users and administrators with the knowledge to effectively use and manage the system.
- Ensure smooth adoption of the new system across all business units.

### Key Activities:

- Develop Training Materials
- Conduct Train-the-Trainer Sessions
- Organize End-User Training Workshops
- Provide Hands-on Practice Sessions

### Deliverables:

- Training Strategy and Plan
- Presentation Materials that would aid the trainer in imparting training.
- User Manuals and Quick Reference Guides
- Training Completion Reports and Feedback Analysis

### Methodology:

JMR ensures that the Bank staff are fully equipped to adopt and use the new Core Banking solution. Our training program is designed to combine structured knowledge transfer with hands-on practice, ensuring both technical and functional users gain confidence in the system.

- **Training Material** – JMR trainers will prepare tailored course materials aligned with Bank's requirements to ensure effective knowledge transfer.
- **Blended Delivery Approach** – Training will combine classroom/online sessions with hands-on exercises and application-based practice.

- **Train-the-Trainer Model** – Core users will be trained first, enabling them to cascade knowledge across the wider user base.
- **Comprehensive Coverage** – Both functional and technical areas will be addressed to build end-to-end proficiency.
- Collaborative Scheduling – The final training plan will be developed jointly with the Bank’s core team at project initiation, with a tentative schedule provided upfront.

A tentative schedule for the train-the-trainers program is given in the table below.

Product	Module	Content	Duration (Days)	Audience
Oracle FLEXCUBE	Base, Core Banking (CASA, Deposits, Loans, General Ledger)	Functional Architecture, Solution Architecture, System Maintenance and Parameter Setup User Maintenance GL Maintenance Workflow Maintenance Collaterals, Document Category, Product Group Definition, Fee and Charges, Account Status Product Limit Transaction Code Liquidation sequence Tax, Interest, Commission Core Entities and Core Services, Transactions Limit Batch Processing	10 days	Project Manager and Core Team
	CASA	Saving Accounts Term Deposit Fund Transactions	2 days	Project Manager and Core Team
	Loan Management	Accounts Disbursement Payments Request & Cancellation	2 days	Project Manager and Core Team
	ELCM	Product creation Limits Collaterals	2 days	Project Manager and Core Team
	End of Day	Mandatory Programs setup, Cut off and EOD processing flow, EOD Milestones, Monitoring, EOD Reports	2 days	Project Manager and Core Team
	Technical	Architecture Interfaces overview Application administration and monitoring	2 days	Project Manager and Core Team
	Reporting	Interactive dashboards Data visualization Generate templates Reports	2 days	Project Manager and Core Team

## 6. Testing Phase

### Objectives:

- Validate the system against requirements and ensure it is defect-free.

### Key Activities:

- System Integration Testing (SIT)
- User Acceptance Testing (UAT)
- Performance and Security Testing

### Deliverables:

- Test Strategy and Plan
- Defect Logs and Resolution Reports
- UAT Sign-off

## 6. Cutover Phase

### Objectives:

- Prepare for and execute the transition from legacy to the new system.

### Key Activities:

- Final testing data
- System freeze and backup
- Cutover rehearsal and checklist execution

### Deliverables:

- Cutover Plan
- Final testing Report
- Go/No-Go Decision Document
- Rollback Plan

## 7. Go-Live & Hyper Care

### Objectives:

- Launch the system in the live environment and ensure stability.

### Key Activities:

- System monitoring
- Hypercare support
- Issue resolution and performance tuning

### Deliverables:

- Go-Live Report
- Support Handover Document



## **AI Strategy & Ops**

JMR has built an AI-driven implementation acceleration framework for implementation programs. Using a suite of purpose-built co-pilots (AI agents), we reduce manual effort, compress timelines, and improve consistency across environments without compromising security or governance.

These co-pilots are designed to assist delivery teams across the end-to-end implementation lifecycle:

- Infrastructure readiness validation
- Automated installation and configuration
- Standardized parameter setup
- Faster testing cycles with synthetic data generation
- Rapid issue resolution through a knowledge co-pilot

This approach enables JMR to deliver a implementation and rollout with:

- Higher speed: fewer manual cycles and rework
- Higher quality: standardized checks and repeatable execution
- Better auditability: consistent logs, approvals, and traceability
- Operational resilience: guided remediation and knowledge support

## **What Makes This Different**

Traditional implementation relies heavily on:

- Manual server readiness checks
- Human-led installation steps and environment hardening
- Repeated configuration activities across environments
- Slow turnaround during testing due to data gaps and troubleshooting delays

JMR's AI approach introduces an "Implementation Factory" model where:

- Agents execute standard tasks reliably and repeatably
- Implementation knowledge is embedded as "playbooks"
- Human experts remain in control via approvals and gated execution
- New agents can be introduced as project needs evolve

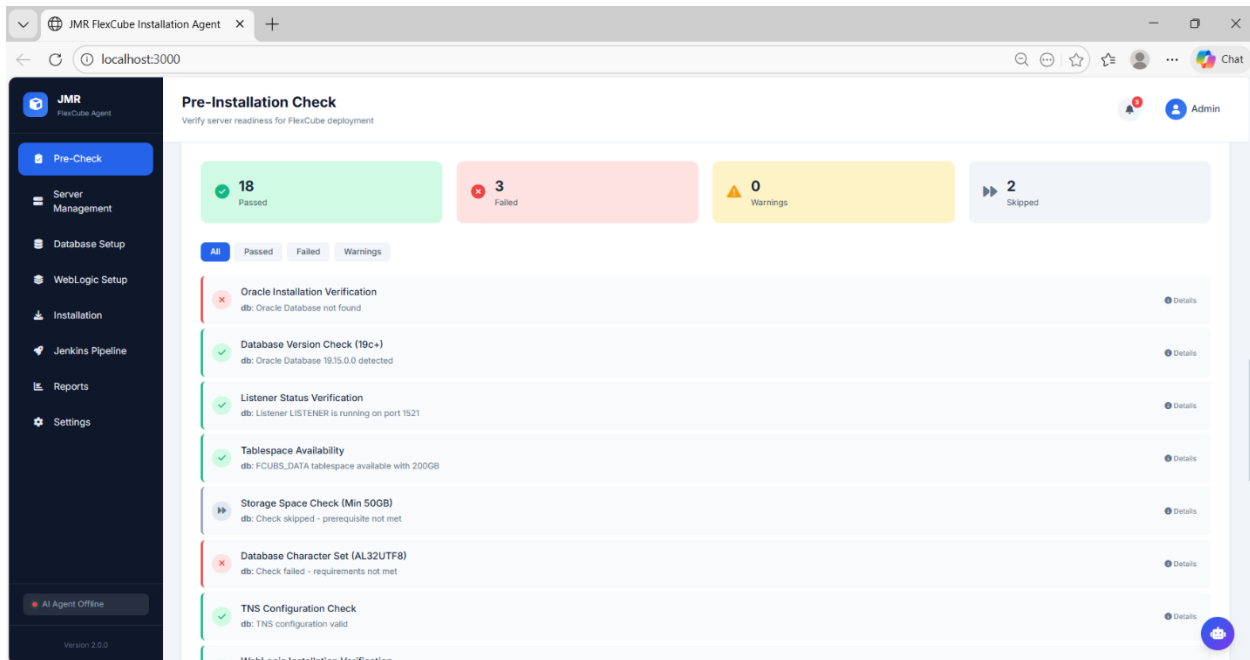
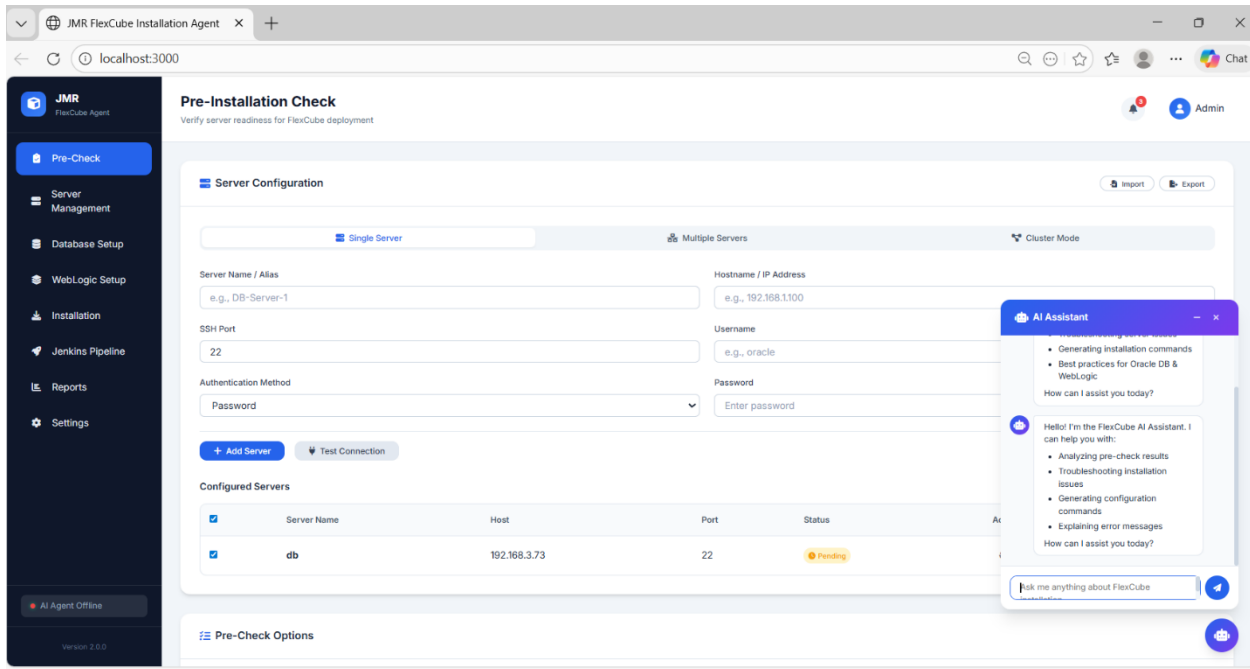
## **AI Co-Pilots for Each Phase of Implementation**

### **Phase A: Environment Readiness & Setup**

#### **1) Pre-check Agent (Infrastructure Readiness & Remediation Guidance)**

The Pre-check Agent runs structured validations on target servers identified for installation. It:

- Assesses OS, CPU/memory, disk, network, ports, kernel parameters
- Validates prerequisites for Oracle Database and middleware stack
- Checks OS users/groups, permissions, patch levels, required libraries
- Produces a consolidated readiness report and recommended fixes
- Flags deviations from standard baselines and environment risks



## Phase B: Automated Installation (Database & Middleware)

### 2) Installer Agent (Database + Middleware Installation via Configured Parameters)

Based on centrally configured parameters, the agent:

- Generates the installation plan and command sequence
- Installs Oracle Database and Middleware (e.g., WebLogic) components
- Applies pre-approved patches and standard configurations
- Ensures consistency between DEV/SIT/UAT/PROD setup patterns

### 3) Database Setup Agent (Schema, Configuration, App Readiness)

The Database Setup Agent:

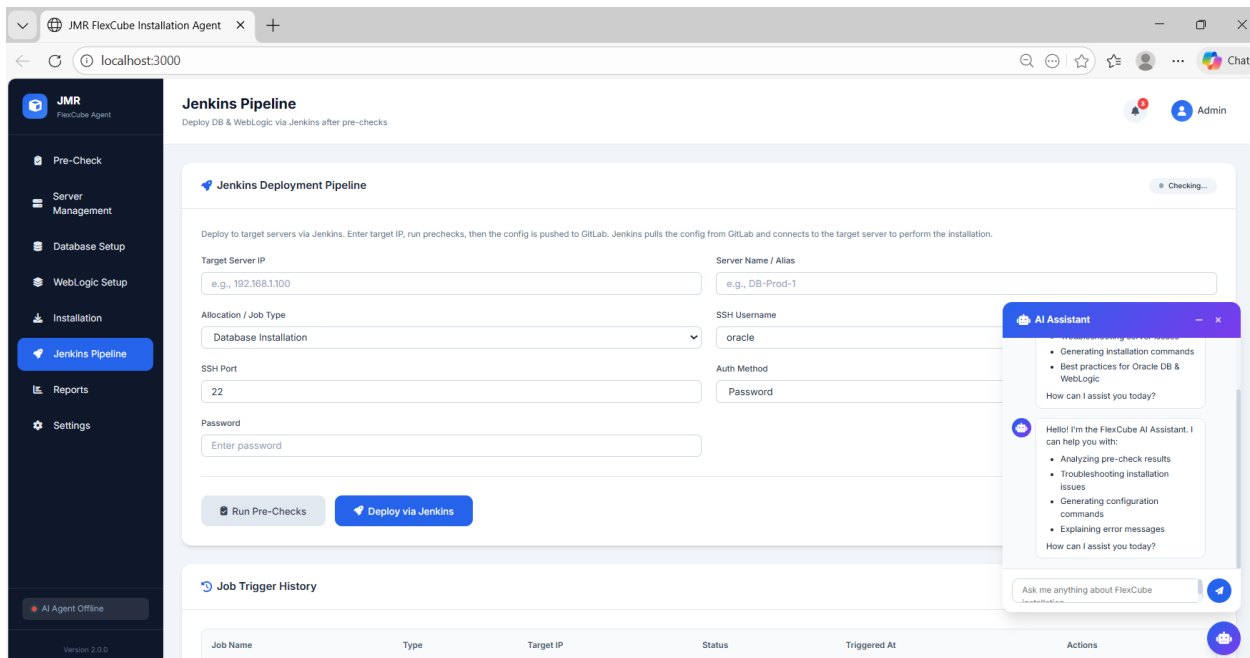
- Prepares DB configuration tailored to application requirements
- Applies application-specific settings (tablespaces, users, roles, grants)
- Configures performance and operational parameters as per standards
- Performs post-install validations and readiness confirmation

## Phase C: Application Installation & Core Configuration

### 4) Install & Configure Agent (Module-Driven Deployment)

On selection of modules and base deployment parameters, this agent:

- Installs the application stack using approved deployment patterns
- Applies environment-specific configuration values
- Executes installation steps consistently “on click of a button”
- Verifies deployment integrity (services, endpoints, logs, dependencies)



## Phase D: Parameterization and Product Configuration

### 5) Base Parameter Setup Agent (Configuration File Driven)

Using controlled configuration files, the agent:

- Initiates base parameter setup for the Application
- Applies bank-specific settings in a consistent, traceable manner
- Reduces time spent on repetitive configuration across environments

### 6) Product Parameter Configuration Agent (Input-Driven Configuration Execution)

Based on supplied configuration inputs, the agent:

- Initiates product parameter configuration processes
- Supports controlled automation for large parameter volumes
- Maintains traceable change logs and configuration application status

## Quality & Control Measures Built In

To ensure production-grade safety, these agents follow controlled execution principles:

- Gated actions: approvals required for sensitive steps (e.g., PROD changes)
- Allowlisted operations: agents can only run pre-approved actions/scripts
- Full logging: commands executed, results, timestamps, and user context captured
- Rollback awareness: prompts and playbooks include rollback sequences where applicable

## Phase E: Testing Acceleration

### 7) Test Data Generation Agent (Template-Based Transaction Data)

Testing often slows down due to lack of data variety and setup time. This agent:

- Generates test data using controlled templates and transaction patterns
- Produces repeatable data sets for SIT/UAT cycles
- Supports edge-case scenario creation (limits, exceptions, reversals, fees, etc.)
- Enables faster regression testing with standardized data packs

## Phase F: Support During Testing & Stabilization

### 8) Knowledge Co-Pilot (Issue Resolution and Delivery Assistance)

The Knowledge Co-Pilot provides rapid support during testing and stabilization by:

- Answering functional/technical queries based on approved project knowledge
- Guiding troubleshooting using known issue patterns and playbooks
- Supporting delivery teams with fix recommendations and next-step guidance
- Reducing dependency on a few SMEs for every recurring issue

## Governance, Security, and Knowledge Protection

JMR's AI co-pilots are designed for enterprise banking environments with strict control requirements:

- RAG-based knowledge grounding: answers are generated from the bank's approved knowledge sources and project repositories (controlled and permissioned).
- Role-based access and segregation of duties: users only see what they are entitled to.
- Guardrails via MCP-aligned controlled connectivity: agents connect to tools and systems through structured, permissioned interfaces; no open-ended system access.
- Auditability: all agent actions and outputs are logged for review and compliance alignment.

## Business Impact Summary

Using these AI co-pilots, JMR helps banks achieve:

- Accelerated implementation timelines (fewer manual cycles and dependencies)
- Higher environment consistency across DEV/SIT/UAT/PROD
- Reduced operational risk via standardized validations and controlled execution
- Improved testing velocity through rapid test data preparation and knowledge support
- Better delivery economics through reusable automation and repeatable agents

# 6. Project Governance

Solid project governance is the cornerstone of successful transformation initiatives. At JMR Infotech, we implement a structured governance framework that ensures strategic alignment, accountability, and transparency across all project phases. This includes clearly defined roles and responsibilities, robust escalation mechanisms, regular steering committee reviews, and real-time reporting through dashboards. Our governance model fosters proactive risk management, timely decision-making, and continuous stakeholder engagement ensuring that projects stay on track, within scope, and deliver measurable business value.

Governance Layer	Participants	Responsibilities
Executive Leadership (Monthly / Bi-Monthly)	<ul style="list-style-type: none"> <li>● Bank Sponsor</li> <li>● Bank Management Nominee</li> <li>● Bank Technology Leadership</li> <li>● JMR Management</li> <li>● JMR Project Advisor</li> </ul>	<ul style="list-style-type: none"> <li>- Establishes vision</li> <li>- Sets overall objectives and priorities</li> <li>- Resolves significant conflicts</li> <li>- Provides continuous leadership</li> </ul>
Steering Committee (Fortnightly / Monthly)	<ul style="list-style-type: none"> <li>● Bank Project Director</li> <li>● Bank Biz / Tech Leads</li> <li>● JMR Project Advisor</li> <li>● JMR Project Manager</li> </ul>	<ul style="list-style-type: none"> <li>- Bank Program Oversight</li> <li>- Resolves key program-level issues</li> <li>- Financial Management</li> <li>- Roadmap / Scope / Change Management</li> </ul>
Project Management (Daily stand-up and Weekly Milestones)	<ul style="list-style-type: none"> <li>● Project Manager(s)</li> <li>● Functional &amp; Technical Consultants</li> <li>● SMEs</li> <li>● Bank Participants</li> </ul>	<ul style="list-style-type: none"> <li>- Conducts daily program management</li> <li>- Project management</li> <li>- Scope / Change management (Project)</li> <li>- Quality assurance (Project)</li> <li>- Resource management (Project)</li> <li>- Risk management (Project)</li> </ul>

● Red - Bank Sponsor / Bank Management

● Green - Bank Project Director / Bank Senior Leads

● Blue - JMR Management / JMR Project Manager

● Light Blue / Green - Bank Project Team / JMR Project Team

# 7. Risk Management

Robust risk management is embedded across every phase of our delivery lifecycle, enabling early identification, mitigation, and control of potential issues. This proactive approach ensures project stability, regulatory compliance, and uninterrupted progress toward business goals.

Category	Scenarios
Scope Risks	Vague requirements, change requests post-signoff.
Design Risks	Complex or unvalidated design, poorly structured requirement
Technical Risks	Over Customization
Timeline Risks	Integration & Migration delays
Cost Risks	Resource churn, change rework, extended UAT feedback cycles
Stakeholder Risks	Delayed feedback, excessive revisions, unclear ownership

Phase	Risk Focus	Mitigation Approach
Requirements	Scope Creep, Ambiguity	<ul style="list-style-type: none"> <li>- Freeze Requirements specs early via inception</li> <li>- Guide &amp; Educate team on importance of inception</li> <li>- Baseline Mutually agreed Execution right at the onset</li> </ul>
Design	Rework, Usability Failure	<ul style="list-style-type: none"> <li>- Design Solution with minimum invasive change</li> <li>- Conduct early stakeholder validation</li> <li>- FAT testing for key flows</li> </ul>
Development	Overengineering, Integration issues	<ul style="list-style-type: none"> <li>- Design Signoff for expectation alignment</li> <li>- Design with minimum invasive change</li> <li>- Unit Test Plan should be constructed based on design.</li> </ul>
Testing & UAT	Delayed feedback, Last-minute defects	<ul style="list-style-type: none"> <li>- Post Unit Test, run a workshop</li> <li>- Promote Change Awareness</li> <li>- Keep Customer appraised of IUT findings.</li> </ul>
Go-Live & Warranty	Regression, Hotfix risks	<ul style="list-style-type: none"> <li>- Canary or phased releases</li> <li>- Predefined rollback plan</li> <li>- Warranty support for post-live issues</li> </ul>

Along with risk mitigation, its also imperative to adop risk governance throughout the project life cycle, to promote transparency and avoid last minute unpleasant surprises.

Control Area	Practice
Scope Control	- Change Request Register with impact analysis and approval workflows
Cost Containment	- Effort variance tracking (Planned vs Actual) - Weekly budget burn reviews
Time Management	- Milestone-based reviews - Continuous Accountability establishment
Quality Assurance	- Deliverable Quality checklists - Code quality gates
Stakeholder Management	- RACI matrix - Milestone & Accountability tracking & signoffs - Escalation matrix

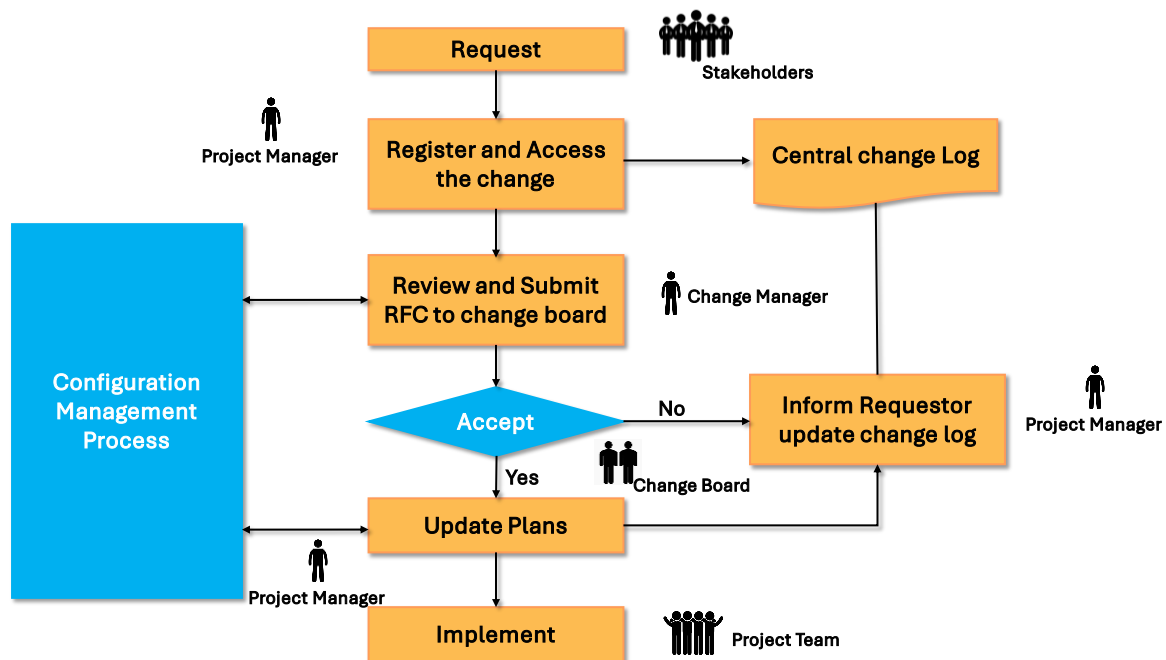
# 8. Change Management

## Framework for Change Requests

The Change Request Process is designed to manage changes to the project goals, deliverables, timeline, or design specifications. A change request does not necessarily mean a monetary impact to the Bank – that depends on the degree to which the scope is changed – however all changes, large and small, are made via the Change Request process. The Change Approval Process could be used to implement any permanent change in the scope of the overall program, or for any one-time or out-of-scope work associated with a specific project.

The Change Approval Process provides the mechanism to accept and formalize the change requests. Specific procedures associated with the Change Approval Processes are triggered upon submission of a Change Request Form to the JMR Project Manager. These could be fresh approvals for additional resources or funds, revisions to plans, schedules, among other parameters.

Below diagram depicts the flow of change request.





# One Stop Shop for all your technological needs

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