

ROADMAP TO A DIGITAL BELIZE

**@nebelize**

AGENDA



Introduction



Vision, Journey and Benefits



Foundational Layers



Near-term Opportunities



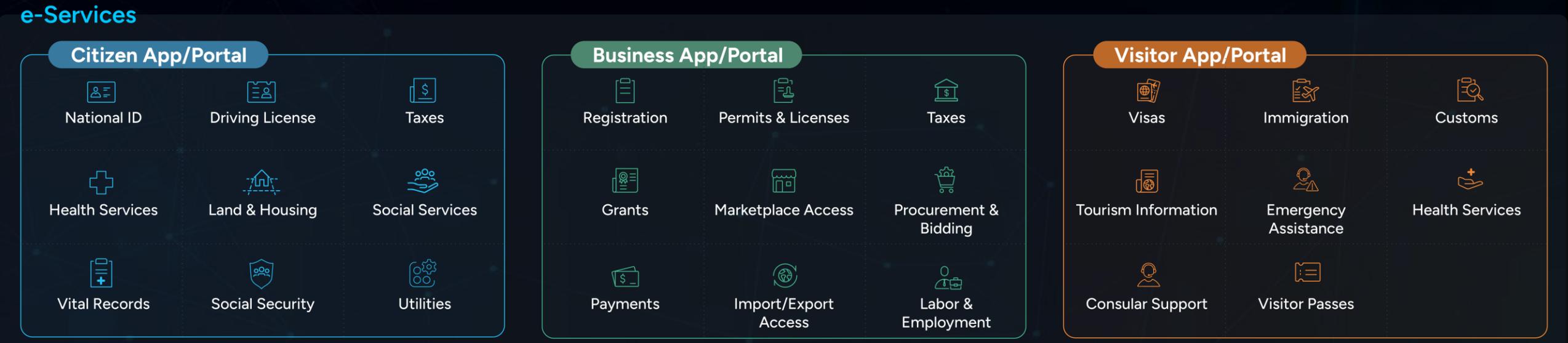
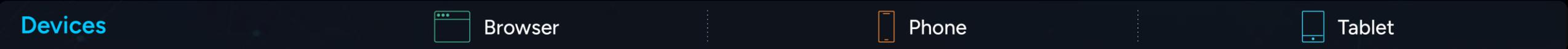
Short demos



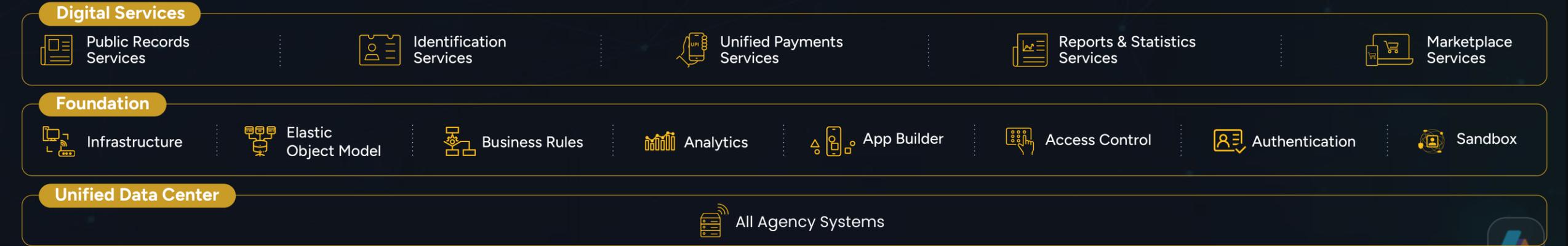
Q&A



DIGITIZATION VISION



United OneBelize Application and Services Platform



JOURNEY TO THE VISION



BENEFITS

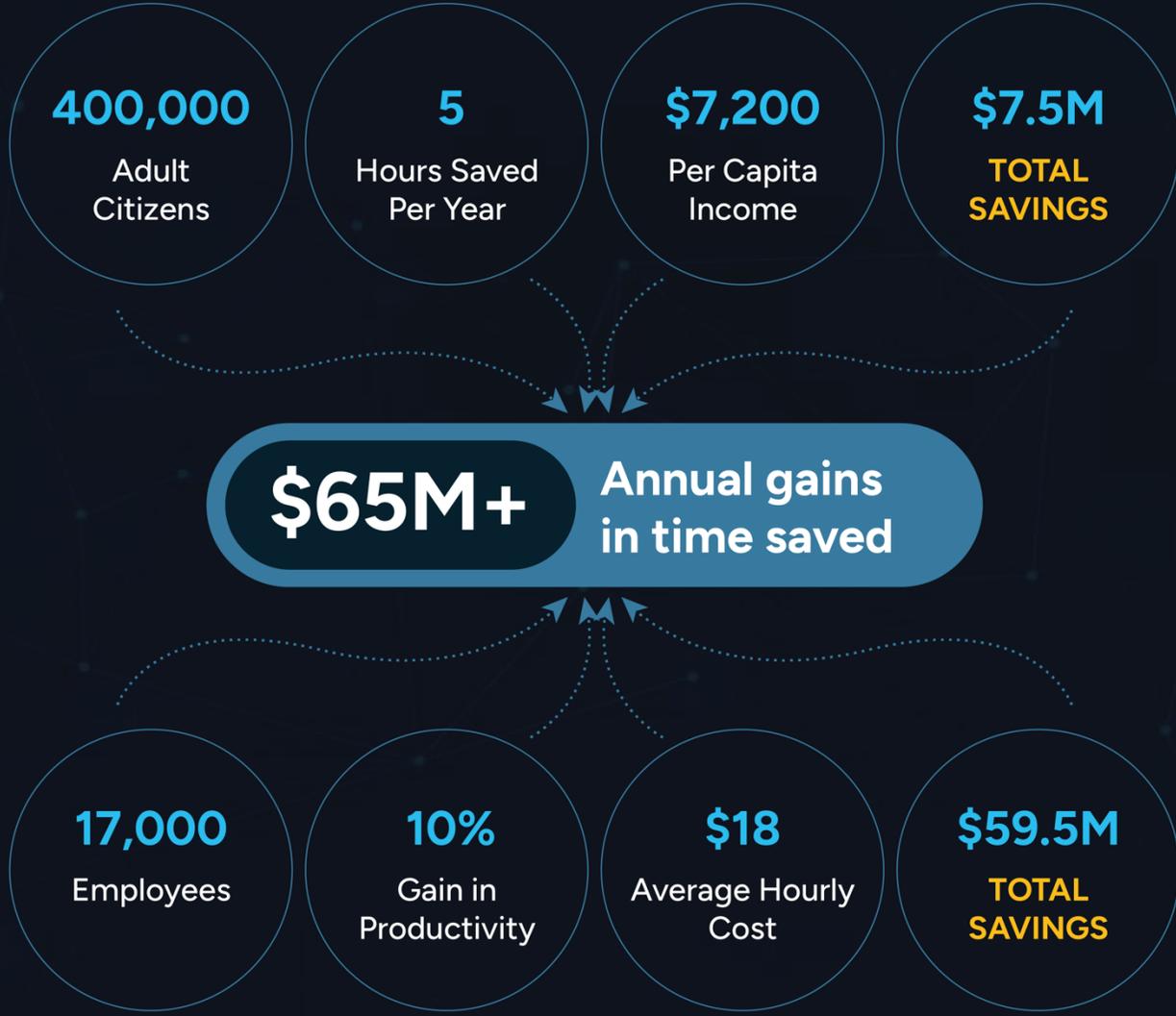
Speed

Efficiency

Transparency

Consistency

Brand Image



Development of a center of excellence for digitization

Agility to share skills among government agencies

Offering digitization services to the region and broader world



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NATIONAL IDENTIFICATION

Goals

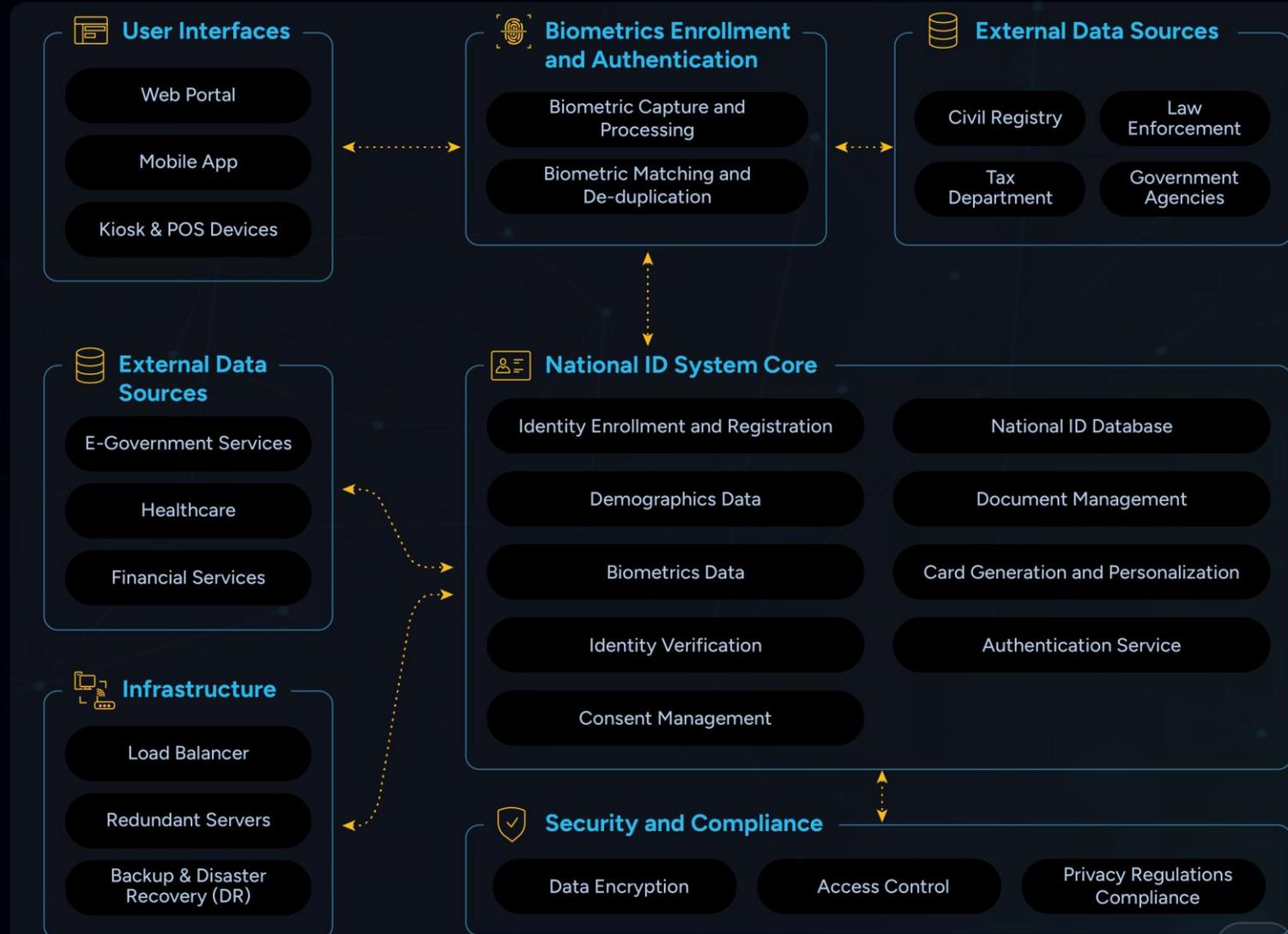
1. Secure and Unique Identification
2. Efficient access to services
3. National security and public safety
4. Inclusion through digital transformation
5. Transparency and trust in Governance

Timeline

1. Pilot - February 2025
2. Setup National Rollout - July 2025
3. Enrollment Phase 1 (40%): December 2025
4. Enrollment Phase 2 (100%): December 2026

Considerations

- Pilot completed successfully in 6 weeks
- Mobile enrollment centers
- Start with major population centers and spread out
- Connect, consolidate and sunset other identification systems like Social Security, Voter ID, Driving License etc.



UNIVERSAL PAYMENTS

Goals

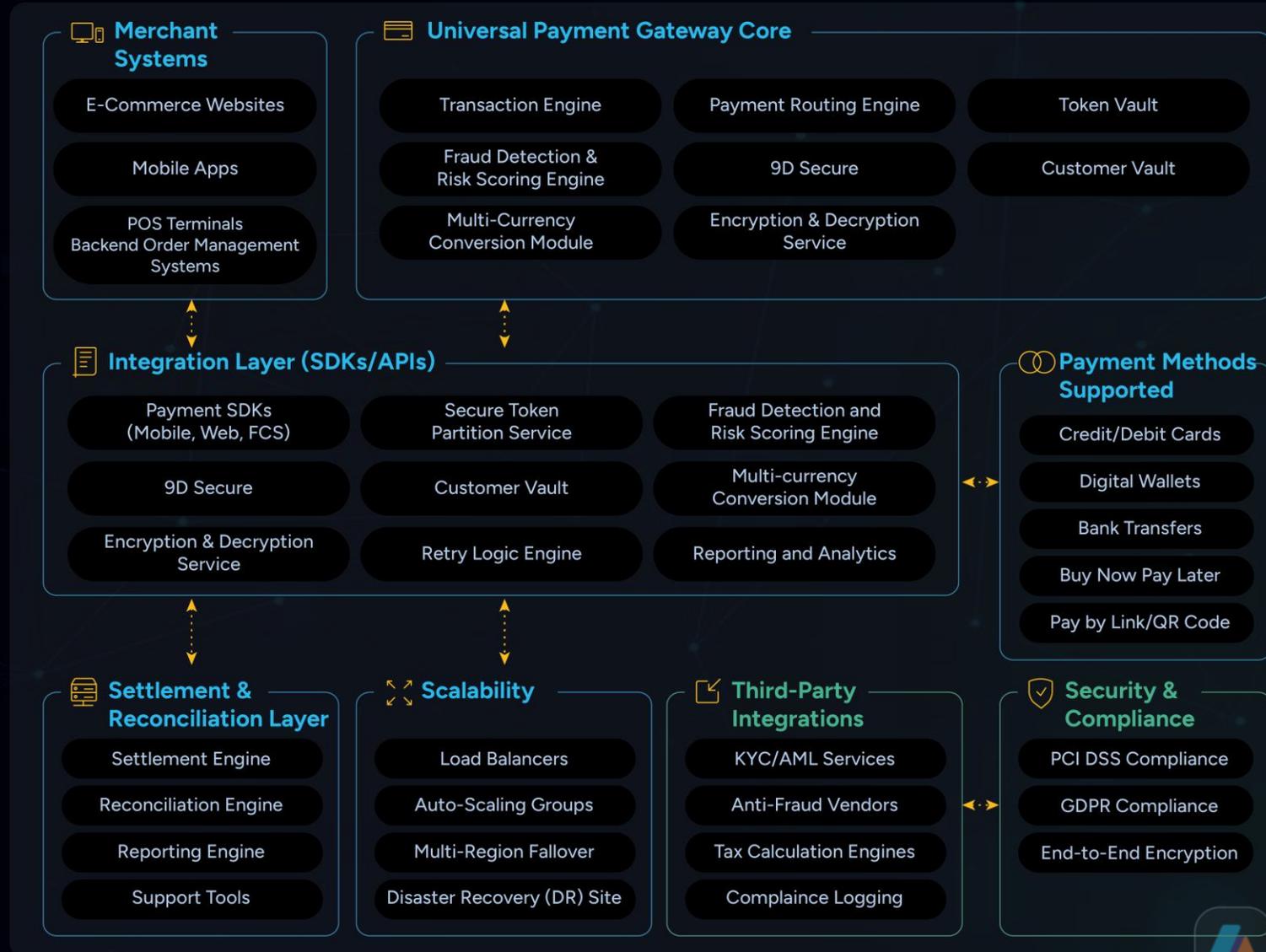
1. Promote financial inclusion
2. Improve transparency and reduce fraud
3. Enhance efficiency and reduce costs
4. Economic Sovereignty and Data Control
5. Foundation for fintech innovation, digital commerce

Timeline

1. Kickoff: July 2025
2. Development of core: December 2025
3. Infrastructure Phase 1: December 2025
4. Infrastructure Phase 2: July 2026

Considerations

- Monetization of the service for commercial businesses, financial institutions and specific citizen services
- Existing infrastructure needs assessment for long term viability



Goals

1. Enhanced security and compliance
2. Efficiency and Cost savings
3. Interoperability and Data Sharing
4. Scalability and future readiness
5. National Sovereignty

Milestones

1. Securing real estate
2. Phase 1: Construction, power and fiber optics
3. Phase 2: Hardware - new and migration
4. Phase 3: AI enablement
5. Overall timeline: 24 months

Key Capabilities

- Physical security: 24x7, Biometrics etc
- Redundant power and cooling
- Firewalls, intrusion detection & prevention (IDPS), zero trust, continuous monitoring
- Disaster Recovery (DR) with real-time replication and offsite backups
- Redundant network connectivity
- Modular design for rapid expansion
- AES-256, TLS 1.3 data encryption at rest and transit
- Predictive maintenance using AI
- Adherence to standards like ISO 27001



LANDS: SEARCH & TRANSFERS

Goals

1. Reduce or eliminate office visits.
2. Monetized "zillow-like" digital search of Land/property records.
3. Streamlined digital experience for property transfer/sale.
4. Real-time analytics and visibility.

Milestones

1. Kickoff: July 2025
2. Property Sale Digitization: October 2025
3. Land records search: February 2026



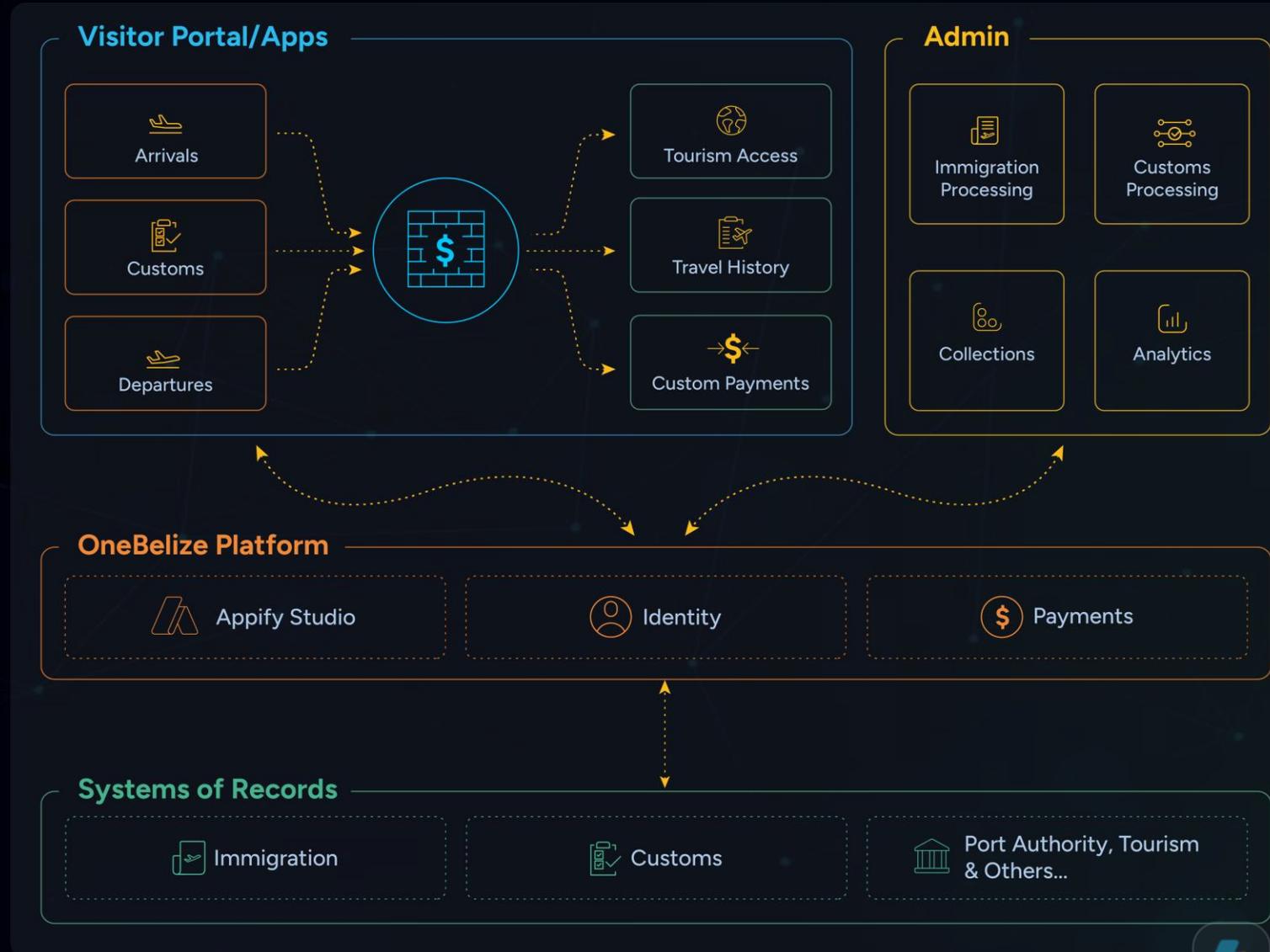
ARRIVALS & DEPARTURES

Goals

1. Simplify arrivals and departure experience.
2. Add tools for efficient capture of visitor information.
3. Integrate with existing immigration, customs and border control systems.

Milestones

1. Kickoff: June 2025
2. Integrated forms: October 2025



Reference



NOTABLE NATIONAL ID PROGRAMS



Estonia (eID)

1.37 Million
Population

Highlights

600 Citizen services,
2400 business services



Singapore (SingPass)

5.9 Million
Population

Highlights

Access to 700
Government agencies



India (Aadhaar)

1.4 Billion
Population

Highlights

World's most used
integrated ID System



Nigeria (NIN & BVN)

227 Million
Population

Highlights

100 million NIN users.
58 Million BVN users



Netherlands (DigiD & eHerkenning)

18 Million
Population

Highlights

Tax filing, benefits and
500 service providers



Belgium (BelPIC)

12 Million
Population

Highlights

Access to Government and banking
services through itsme app



NOTABLE PAYMENT SYSTEMS

Country	Payment Systems	Description
 India	Unified Payments Interface (UPI)	One of the most successful; real-time, interoperable across banks and apps.
 Brazil	PIX	Instant payment system created by Brazil's Central Bank; very widely adopted.
 Thailand	PromptPay	Part of Thailand's National e-Payment Master Plan; linked to national ID and phone numbers.
 Singapore	PayNow	Real-time payment system tied to phone numbers and national IDs; interoperable with QR code standards.
 China	PBOC QR Code System	Central Bank regulates and pushes toward unified QR code payment standards; now moving toward e-CNY (digital yuan).
 Mexico	CoDi (Cobro Digital)	Central Bank-led platform for QR code-based and NFC payments via smartphones.
 EU (partial)	TARGET Instant Payment Settlement (TIPS)	Pan-European real-time payment infrastructure by the European Central Bank (ECB); adoption still varies country by country.
 Ghana	GhIPSS Instant Pay (GIP)	National switch and real-time payments platform operated by Ghana Interbank Payment and Settlement Systems.
 Nigeria	NIBSS Instant Payment (NIP)	National system supporting real-time interbank transfers across banks and fintechs.
 Rwanda	Rwanda Integrated Payment Processing System (RIPPS)	Centralized national payment infrastructure.

GLOSSARY OF TERMS: NID

Section/Topic	Description
Web Portal	A secure online platform for citizens and officials to manage identity services, applications, and verifications.
Mobile App	A portable application enabling identity enrollment, authentication, and service access from smartphones and tablets.
Kiosk and POS Devices	Physical terminals that facilitate biometric enrollment, identity verification, and service delivery in decentralized locations.
Biometric Capture and Processing	Collects biometric samples (fingerprints, face, iris) and enhances them for secure storage and matching.
Biometric Matching and De-duplication	Compares new biometric data against existing records to verify identity and prevent duplicate enrollments.
Civil Registry	Provides official records of births, deaths, marriages, and citizenship status.
Law Enforcement	Shares criminal records and watchlists to enhance security checks during identity verification.
Tax Department	Supplies taxpayer identification and compliance data to link financial identity with national ID records.
Government Agencies	Contribute sector-specific data (social welfare, education, immigration) to strengthen identity profiles.
Healthcare	Offers verified health records and insurance identifiers to link medical services with national identity.
Financial Services	Integrates banking and credit data for secure KYC (Know Your Customer) processes and financial inclusion initiatives.
Identity Enrollment and Registration	Captures citizen demographic and biometric information through a secure, verified enrollment process.



GLOSSARY OF TERMS: NID

Section/Topic	Description
National ID Database	Central repository that securely stores and manages all registered citizen identity records.
Demographics Data	Structured storage of personal attributes like name, date of birth, address, and nationality.
Document Management	Manages scanned documents, proofs of identity, and other supporting files linked to identity records.
Biometric Data	Stores encrypted biometric identifiers such as fingerprints, facial images, and iris scans for authentication and verification.
Card Generation	Automates the creation and issuance of physical or digital ID cards linked to the citizen's verified identity.
Identity Verification	Provides services to confirm the authenticity of an identity record against submitted credentials or biometrics.
Authentication Service	Enables real-time, secure validation of citizen identities for transactions, access control, and public services.
Consent Management	Allows citizens to control and authorize how their identity information is shared with third parties.
Load Balancer	Distributes incoming network traffic across multiple servers to ensure system reliability, minimize downtime, and optimize resource utilization.
Redundant Servers	Maintains duplicate instances of critical servers to provide seamless failover and uninterrupted service in case of hardware or software failures.
Backup and Disaster Recovery (DR)	Implements scheduled data backups and maintains geographically separate disaster recovery sites to ensure rapid restoration of services after catastrophic events.



GLOSSARY OF TERMS: NID

Section/Topic	Description
Data Encryption	Protects sensitive data in transit and at rest using advanced encryption protocols to prevent unauthorized access.
Access Control	Restricts system access based on defined user roles and permissions to ensure only authorized personnel can view or modify data.
Privacy Regulations Compliance	Ensures all data collection, storage, and processing activities align with applicable privacy laws and regulations.



GLOSSARY OF TERMS: PAYMENTS



Section/Topic	Description
Payment SDKs (Mobile, Web, FCS)	The Integration Layer offers secure APIs and SDKs to simplify and standardize communication between applications and the payment platform
Secure Token Partition Service	The Secure Token Partition Service manages the generation, storage, and validation of encrypted tokens to protect sensitive payment and user data across the platform.
Fraud Detection and Risk Scoring Engine	Monitors transactions in real-time to detect anomalies, assess risk scores, and prevent fraudulent activities.
3D Secure	Provides an additional layer of authentication for online card payments, ensuring secure customer verification during transactions.
Customer Vault	Securely stores and tokenizes sensitive customer payment information to enable safe, repeat transactions without re-entering card details
Multi-currency Conversion Module	Enables dynamic currency conversion during transactions, allowing users to pay and settle in their preferred currencies.
Encryption & Decryption Service	Protects sensitive data in transit and at rest by securely encrypting and decrypting payment and user information.
Retry Logic Engineer	Automatically retries failed transactions based on configurable rules to maximize payment success rates without impacting user experience.
Reporting and Analytics	Aggregates and visualizes transaction, risk, and operational data to deliver actionable insights through customizable dashboards and reports
E-commerce Website	Online storefronts where customers browse, select, and complete purchases through integrated payment gateways.
Mobile Apps	Merchant-owned mobile applications that facilitate product browsing, ordering, and in-app payments.

GLOSSARY OF TERMS: PAYMENTS



Section/Topic	Description
POS Terminals	Physical devices used in-store to accept card, contactless, and mobile wallet payments from customers.
Backend Order Management System	Systems that manage inventory, order processing, fulfillment, and reconciliation of sales with payment systems.
Transaction Engine	Processes, validates, and manages the end-to-end lifecycle of each payment transaction.
Payment Routing Engine	Dynamically routes transactions to the optimal acquiring bank or payment provider based on configurable business rules.
Token Vault	Securely stores encrypted payment tokens to replace sensitive card and account information in transactions.
Fraud Detection and Risk Scoring Engine	Analyzes transaction patterns in real-time to assign risk scores and flag potential fraud.
3D Secure	Provides cardholder authentication during online payments, adding an extra security layer to reduce fraud.
Customer Vault	Manages and protects customer profiles and stored payment methods for faster, recurring, and one-click transactions.
Multi-Currency Conversion Module	Enables real-time currency conversion to allow customers to transact in their local or preferred currencies.
Encryption & Decryption Service	Secures sensitive transaction data during transmission and storage through industry-standard encryption methods.
Settlement Engine	Calculates, batches, and executes fund transfers to merchants and partners based on completed transactions.
Reconciliation Engine	Matches transaction records across systems to detect discrepancies and ensure financial accuracy.

GLOSSARY OF TERMS: PAYMENTS



Section/Topic	Description
Reporting Engine	Generates detailed operational, financial, and compliance reports for internal and external stakeholders.
Support Tools	Provides administrative utilities for monitoring, troubleshooting, and managing transaction lifecycle issues.
Load Balancers	Distribute incoming traffic across multiple servers to optimize performance and prevent overloads.
Auto-Scaling Groups	Automatically adjust compute resources based on real-time traffic and system load.
Multi-Region Failover	Redirects traffic to alternate geographic regions to maintain service availability during regional outages.
Disaster Recovery (DR) Site	A standby infrastructure that enables rapid restoration of services in the event of a major system failure.
Credit/Debit Cards	Processes secure payments through all major credit and debit card networks.
Digital Wallets	Supports leading digital wallets to enable quick, contactless transactions.
Bank Transfers	Enables direct account-to-account payments through supported banking channels.
Buy Now Pay Later (BNPL)	Integrates BNPL providers to offer flexible installment options at checkout.
Pay by Link/QR Code	Facilitates remote and in-person payments through secure links or QR codes.
KYC/AML Services	Verifies customer identities and monitors transactions to ensure regulatory compliance with KYC and AML standards.
Anti-Fraud Vendors	Integrates with specialized fraud detection providers to strengthen transaction security and minimize risk.
Tax Calculation Engines	Automates the calculation of applicable taxes for transactions based on jurisdictional rules.

GLOSSARY OF TERMS: PAYMENTS

Section/Topic	Description
Complaint Logging	Captures and manages customer complaints through integrated ticketing and case management systems.
PCI DSS Compliance	Ensures adherence to Payment Card Industry Data Security Standards for secure handling of cardholder data.
GDPR Compliance	Protects user privacy and manages personal data according to General Data Protection Regulation (GDPR) requirements.
End-to-End Encryption	Encrypts data across the entire transaction flow to prevent interception, tampering, or unauthorized access.

