CredEntry

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Security and Architecture Diagram

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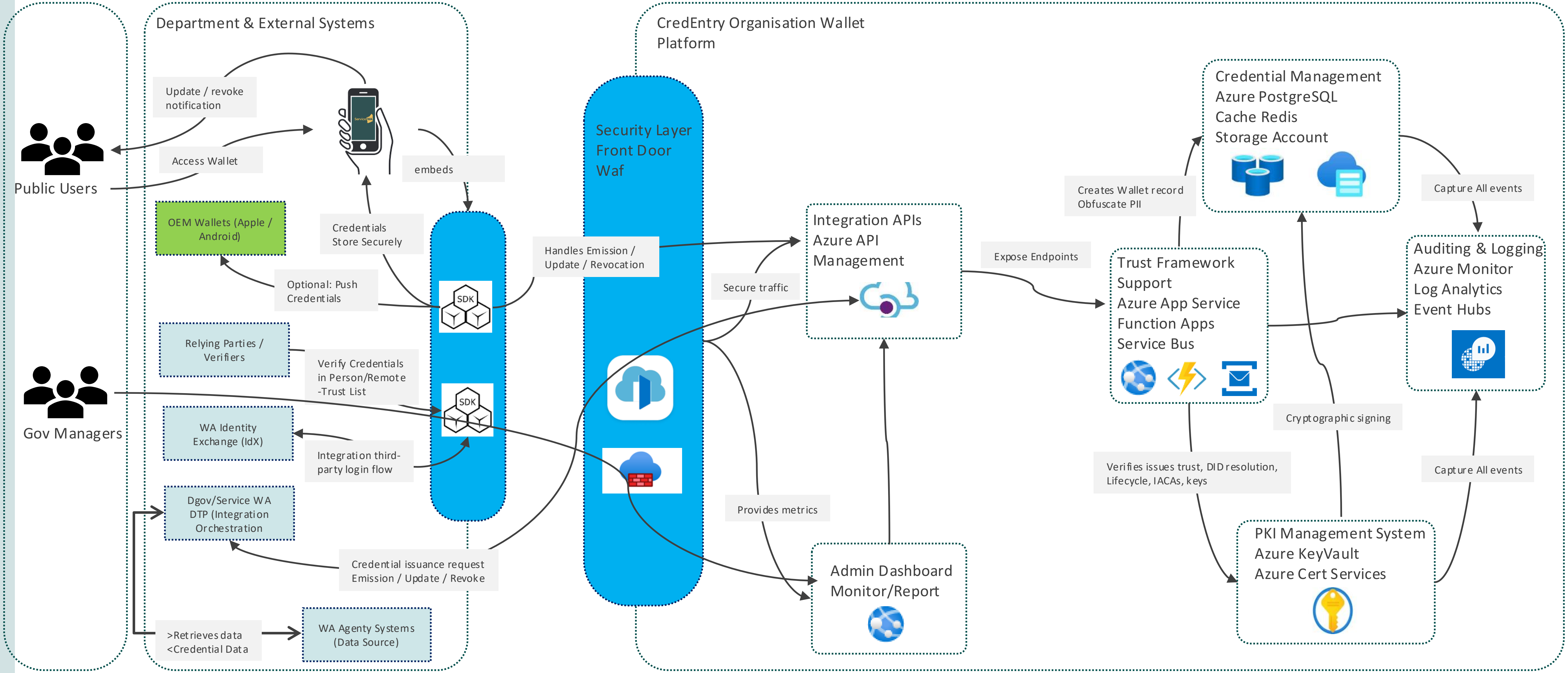
Security Architecture Diagram


Public Users
Gov Managers
Department & External Systems
Update / revoke notification
Access Wallet
embeds
OEM Wallets (Apple / Android)
Credentials Store Securely
Optional: Push Credentials
SDK
Relying Parties / Verifiers
Verify Credentials in Person/Remote -Trust List
SDK
WA Identity Exchange (IdX)
Integration third-party login flow
Dgov/Service WA DTP (Integration Orchestration
Credential issuance request Emission / Update / Revoke
>Retrieves data <Credential Data
WA Agenty Systems (Data Source)
CredEntry Organisation Wallet Platform
Security Layer Front Door Waf
Handles Emission / Update / Revocation
Secure traffic
Provides metrics
Integration APIs Azure API Management
Expose Endpoints
Admin Dashboard Monitor/Report
Creates Wallet record Obfuscate PII
Credential Management Azure PostgreSQL Cache Redis Storage Account
Trust Framework Support Azure App Service Function Apps Service Bus
Capture All events
Auditing & Logging Azure Monitor Log Analytics Event Hubs
Cryptographic signing
Verifies issues trust, DID resolution, Lifecycle, IACAs, keys
Capture All events
PKI Management System Azure KeyVault Azure Cert Services

The proposed solution is a cloud-native SaaS Organisation Wallet Platform hosted on Microsoft Azure, designed to securely issue, manage, present, verify, and revoke digital credentials for WA Government.

1. Core Infrastructure (Azure PaaS)

- **Credential Management Engine** (Azure Functions + Azure PostgreSQL + Azure Storage Account): Secure lifecycle of credentials (issue, update, revoke) with structured data in PostgreSQL and encrypted document/credential storage in Azure Storage.
- **Processing & Messaging** (Azure Service Bus + Azure Functions): Ensures reliable queuing, asynchronous processing, and decoupling of services for scalability.
- **Performance & Caching** (Azure Redis Cache): Enhances system responsiveness and reduces latency for frequently accessed credential and verification data.
- **Trust & PKI Management** (Azure Key Vault + Azure Certificate Services): Cryptographic operations, certificate issuance, and key lifecycle protection.
- **Integration APIs** (Azure API Management): Secure APIs & SDKs for ServiceWA, agencies, and verifiers (OID4VCI, OIDC4VP).
- **Auditing & Logging** (Azure Monitor, Log Analytics, Event Hubs): Full audit trails, monitoring, and fraud detection.
- **Security & Access Layer** (Azure Front Door + WAF): Protects all internet-facing services, enforces MFA, and ensures encrypted traffic.
- **Admin Dashboard** (Azure App Service + Power BI): Credential administration, reporting, and analytics.

2. External Systems & Interactions

- **ServiceWA App & SDK**: Provides wallet functionality to end users.
- **OEM Wallets (Apple/Google)**: Optional credential storage on user devices.
- **WA Agency Systems**: Source of citizen data.
- **DGov/ServiceWA DTP**: Integration orchestration between agencies and wallet platform.
- **WA Identity Exchange (IdX)**: Enables third-party login flows.
- **Relying Parties / Verifiers**: Validate citizen credentials via APIs or in-person.

3. Key Process Flows

- **Issuance:** Credential request → Agency data → Wallet record creation → Secure delivery to citizen wallet.
- **Update/Revocation:** Change/revoke request → Agency validation → Updated credential pushed to wallet.
- **Verification:** Credential presented (QR, NFC, API) → Verifier checks trust lists → Status confirmed (active/revoked).

4. Overarching Principles

- **Data Sovereignty:** All data stored in Australia.
- **Security & Privacy:** Encryption, MFA, PII obfuscation, ISO/IEC + eIDAS compliance.
- **Standards Alignment:** W3C VC, DID, ISO/IEC 18013-5/7, 23220, OID4VCI, OIDC4VP.
- **Scalability:** SaaS, high availability (99.95%), modular, multi-tenant ready.