

Digital Identity Verification

A Smart KYC Agent

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About Digital Identity Verification Solution

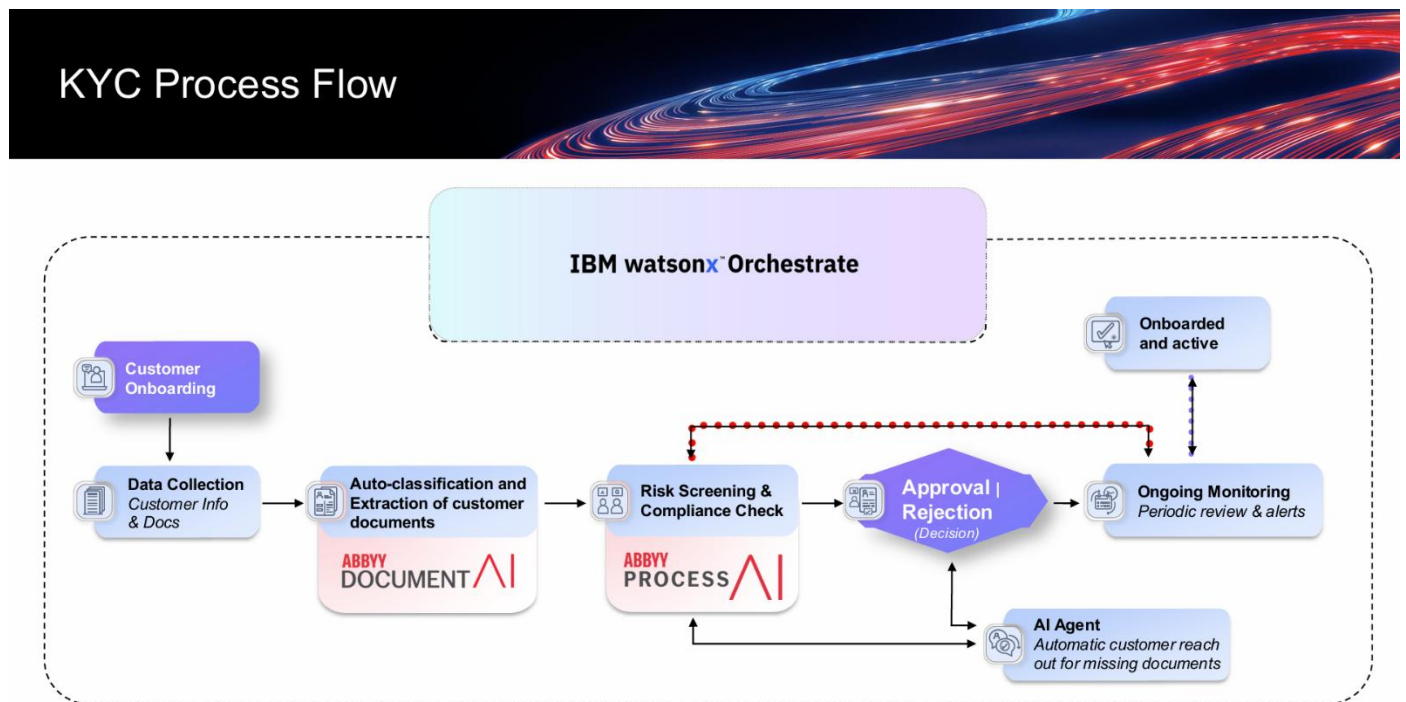
The Digital Identity Verification solution acts as a Smart KYC Agent to streamline identity verification and regulatory compliance processes. Powered by IBM Watsonx Orchestrator's agentic AI, requests are validated and acted upon, while ABBYY Vantage with Document AI extracts and structures key data from customer documents with high accuracy. ABBYY Timeline with Process AI then tracks and analyses the entire journey, providing visibility, surfacing bottlenecks, and ensuring transparency.

This automation reduces manual effort, accelerates onboarding, and strengthens compliance readiness while delivering accurate, consistent data flow into downstream systems for better decision-making.

Why Automated Digital Identity Verification is Needed

Manual KYC processes slow down onboarding, increase costs, and create compliance risks. The Smart KYC Agent is an Automated Digital Identity Verification solution that leverages agentic AI to validate requests, apply rules, and extract accurate data with ABBYY Vantage (Document AI). ABBYY Timeline (Process AI) tracks every step, ensuring transparency, identifying bottlenecks, and driving continuous improvement. This automation reduces manual effort, accelerates onboarding, improves accuracy, and strengthens compliance while delivering a seamless customer experience.

Use-case Flow



Smart KYC Agent Flow

- **Initiation:** The Smart KYC Agent greets the user and asks for required details to begin the KYC process.
- **Document Submission:** The agent requests and collects the necessary KYC documents (e.g., ID, proof of address, financial statements) from the user and uploads them to **ABBYY Vantage (Document AI)**.
- **Classification & Extraction:** Vantage classifies the documents, extracts and structures key data fields, and prepares the output.
- **Data Retrieval:** The agent fetches the extracted output from Vantage.
- **Validation & Decision:** Using agentic AI, the agent validates the data, applies business rules, and takes the appropriate action — either approving the KYC request or rejecting it with a reason.
- **Process Tracking:** Each step of the flow is logged and sent to **ABBYY Timeline (Process AI)**, where the full journey is tracked, bottlenecks are highlighted, and compliance visibility is ensured.
- **Completion:** The agent confirms the outcome to the user and closes the KYC process.

Solution Benefits

- **Streamlined Onboarding:** Automates the entire KYC journey from document collection to approval.
- **Higher Accuracy:** ABBYY Vantage (Document AI) extracts and structures customer data with precision.
- **Smarter Decisions:** Agentic AI in Watsonx Orchestrate validates inputs, applies rules, and takes appropriate actions.
- **End-to-End Visibility:** ABBYY Timeline (Process AI) tracks every step, highlighting bottlenecks and enabling continuous improvement.
- **Reduced Manual Effort:** Minimizes repetitive tasks and manual errors, lowering operational costs.
- **Faster Turnaround:** Accelerates approvals, delivering quicker and more seamless customer onboarding.

System Requirements

To deploy and run the Smart KYC Agent effectively, ensure the following system and infrastructure prerequisites are met:

➤ Platforms & Accounts

- **ABBYY Vantage (Document AI)**
 - Active Vantage account with rights to create/deploy Document Skills
 - API access enabled (OAuth2) and environment base URL (e.g., https://vantage-*.abbyy.com)
- **IBM Watsonx Orchestrate**
 - Active account
 - Watsonx Orchestrate ADK v1.8.0 or above to define tools/flows and run the agent
 - Active environment in ADK for customizing flows
- **ABBYY Timeline (Process AI)**
 - Active Timeline account
 - Personal Access Token (PAT) and Project ID for data ingestion via API
- **Microsoft Azure**
 - Azure AD app registration with Client ID, Client Secret, and Refresh Token
 - Required Graph API scopes: Mail.Send, Files.ReadWrite.All (adjust as needed)

➤ API Credentials & Configuration in IBM Watsonx Orchestrate

- Vantage: VANTAGE_BASE_URL, VANTAGE_CLIENT_ID, VANTAGE_CLIENT_SECRET
- Orchestrate: Agent/flow/tool configuration (per ADK)
- Timeline: TIMELINE_BASE_URL, TIMELINE_ACCESS_TOKEN, TIMELINE_PROJECT_ID
- Microsoft Graph: GRAPH_TENANT_ID, GRAPH_CLIENT_ID, GRAPH_CLIENT_SECRET, GRAPH_REFRESH_TOKEN

➤ Development Environment

- Python 3.10+ (for Orchestrate ADK tooling and scripts)
- Access to .NET 7.0+ components

Setup & Customization Guide - ABBYY Vantage + Timeline Integration with Watsonx Orchestrate

1. ABBYY Vantage(Document AI) Setup

- Create or access an active **Vantage account** with API access enabled by creating Public API Client.
- Build or import the **KYC Document Skill(s)** to classify and extract required fields (ID proof, address proof, financial documents, etc.).
- Deploy the skills to your environment and note down:
- VANTAGE_BASE_URL (e.g., <https://vantage-au.abbey.com>)
- VANTAGE_CLIENT_ID and VANTAGE_CLIENT_SECRET (from API credentials)
- Test extraction with **sample KYC documents** to validate accuracy.

2. IBM Watsonx Orchestrate Setup (Agentic AI)

- Install **Watsonx Orchestrate ADK v1.8.0** or above.
- Activate your environment.
- Add connections for Abbyy Vantage (OAuth2 credentials) and Abbyy Timeline.
- Import the provided tool files (from the project folder):
 - Create_VANTAGE_TRANSACTION - Uploads documents to Vantage via API
 - DataEvaluation - Fetches extraction results, applies business rules (approve/reject)
 - Append_Vantage_TransactionSteps_To_Log - Adds Vantage transaction logs to the KYC request log
 - Upload_Log_Data_to_Timeline - Ingests log file into ABBYY Timeline
 - Send_Mail_Outlook - Sends an email notification
 - WAIT_FOR_SECONDS - Simple wait/delay if required
- Configure the **agent behaviour flow**:
 - Ask for full name and email and create a unique kyc_session_id so that it can be sent as input to other tools.
 - Upload documents to Vantage.
 - Retrieve extraction results.
 - Apply validation (mandatory fields, duplicates, thresholds).
 - Approve/reject and close the KYC request.

- Store credentials securely in **Orchestrate connections**.

3. ABBYY Timeline (Process AI) Setup

- Create or access a dedicated **Timeline project** for KYC processes.
- The columns and structure of the timeline project should be same as in the log file.
- Generate a **Personal Access Token** and **Project ID**.
- Configure Orchestrate tools to log every transaction step to Timeline, including:
 - Request initiation
 - Document upload to Vantage
 - Extraction results
 - Validation / approval / rejection decisions
- Customize Timeline dashboards to monitor:
 - Number of KYC cases received / approved / rejected
 - Processing times and bottlenecks
 - Errors or failed cases for corrective actions

4. Microsoft Graph API

- Register an **Azure AD application** and enable required API scopes to send email
- Generate:
 - GRAPH_CLIENT_ID
 - GRAPH_CLIENT_SECRET
 - GRAPH_REFRESH_TOKEN
- Add Graph API calls into Orchestrate to:
 - Send approval/rejection notifications with extracted KYC data.

5. Development & Customization

Scripting & Validation

- Use **Python (3.10+)** in ADK to build tools for validation and business rule checks.
- Optionally integrate with **.NET 7.0+ components** if extended logic or connectors are required.

6. Customization Options

- Add optional user prompts (e.g., missing field entry).

- Extend validation logic (e.g., cross-check IDs against internal databases).
- Configure Timeline for advanced analytics (SLA breaches, audit reporting).
- Enable conditional notifications (different messages for approvals vs rejections).

Customizing the Solution

The application is built for flexibility and can be tailored to specific business needs. You can:

- Append additional fields to email bodies with metadata or context.
- Trigger downstream workflows.
- Apply conditional logic on extracted values to control processing.
- Dynamically modify email subjects or recipients via business rules.
- Capture optional user inputs (comments, or any other document) before submission.