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GenAI-Powered Document Processing on AWS

Executive Summary

Zulu is a fintech company that provides B2B financing solutions, enabling businesses to access credit through a streamlined digital process. Their platform collects and evaluates financial documentation from applicants before forwarding cases to financial institutions. To scale operations and reduce manual document validation, Zulu partnered with binbash to implement a GenAI-powered document processing solution on AWS. The new architecture automates document ingestion, classification, validation, and compliance handling using Amazon Bedrock and serverless services.

Customer Challenge

Zulu's financial evaluation workflow required verifying multiple documents for each B2B application, including:

- Identity cards
- Proof of address
- Payslips
- Quotations
- Case-specific documents

This process was largely manual and time-consuming, creating:

- Operational bottlenecks
- Delays in financing approvals
- Increased labor costs
- Higher risk of human error

Zulu needed a scalable, automated, and compliant solution capable of processing sensitive financial and PII data efficiently.

Solution

binbash designed and implemented an AWS-native GenAI document processing architecture that automated the ingestion, analysis,

zulu

Zulu is a Latin American paytech focused on simplifying international payments for companies and individuals.

Founded with the mission of making global transfers faster and more efficient, the platform enables businesses to pay suppliers, manage cross-border payroll, move intercompany funds and handle global collections across more than 60 countries.

By offering competitive FX rates, lower fees and faster execution than traditional banking channels,

Zulu helps clients reduce costs and improve liquidity while maintaining real-time monitoring, compliance checks and secure transaction processing.



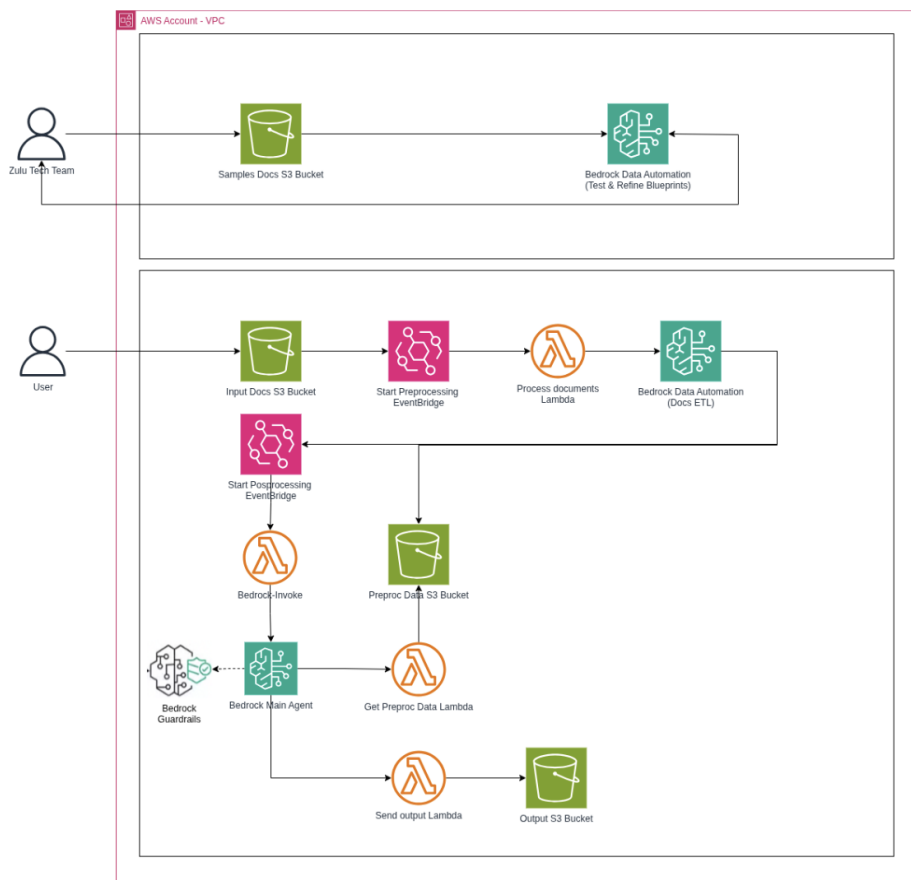
and validation of financial documents.

The solution leveraged:

- Amazon Bedrock for document understanding and orchestration
- Bedrock Guardrails for compliance and hallucination control
- AWS Lambda for processing and orchestration
- Amazon S3 for secure data storage and data lake structure
- Amazon EventBridge for event-driven workflows
- Multi-account AWS architecture for PII isolation

The system processes incoming documents automatically, extracts structured data, validates compliance, and delivers results to internal systems and notification channels.

Architecture Overview





The workflow follows these stages:

1. Document upload to an S3 input bucket
2. EventBridge triggers preprocessing
3. Lambda processes and extracts key data
4. Bedrock automation performs classification and structuring
5. Guardrails enforce compliance and risk controls
6. Structured outputs stored in S3
7. Notifications sent via Slack

Key Components of the Solution

- **GenAI Document Processing Stack**
 - Amazon Bedrock for:
 - Document extraction
 - Classification
 - Orchestration agents
 - Bedrock Guardrails for:
 - Compliance enforcement
 - Hallucination prevention
- **Event-Driven Processing**
 - Amazon S3:
 - Input documents
 - Preprocessed data
 - Output metadata
 - Amazon EventBridge:
 - Automated triggers
 - AWS Lambda:
 - Preprocessing
 - Agent orchestration
 - Output delivery
- **Security and Compliance**
 - Multi-account AWS strategy:
 - Isolates PII-sensitive workloads
 - Separate S3 buckets:



- PII vs non-PII data
 - IAM least-privilege policies

Results

While the SOW defines the implementation scope rather than final KPIs, the expected measurable outcomes include:

Business Impact

- Significant reduction in manual document review time
- Faster financing decision cycles
- Improved operational scalability
- Reduced human error in document validation

Technical Impact

- Fully automated, event-driven document workflows
- Secure handling of PII data
- Scalable GenAI-based document understanding
- Production-ready, serverless architecture

Key Milestones

- **Data ingestion setup:** Securely transfer and store client documents in AWS.
- **Data lake structure:** Organize documents in S3 for efficient processing and retrieval.
- **Blueprint development:** Design and refine document processing workflows using sample data-sets.
- **Bedrock agent implementation:** Build the main orchestration agent to automate validation and outputs.
- **Guardrails integration:** Apply compliance controls and hallucination prevention mechanisms.
- **Testing and validation:** Run workflows with real and synthetic datasets to verify accuracy and efficiency.
- **Final demo and delivery:** Present completed deliverables, gather feedback, and align on next improvements.

Metrics

These are recommended metrics aligned with the solution's goals:

Operational efficiency

- 70–90% reduction in manual document review time
- 3–5× faster financing case processing



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Accuracy and compliance

- 95%+ document classification accuracy
- Near-zero PII handling errors with guardrails

Scalability

- 10× increase in documents processed per day
- Auto-scaling serverless pipeline with no infrastructure management

Cost optimization

- Up to 60% reduction in manual processing costs

Conclusion

Through this engagement, binbash enabled Zulu to transition from a manual, resource-intensive document review process to a fully automated, GenAI-powered document processing platform on AWS.

By leveraging Amazon Bedrock, serverless services, and a secure multi-account architecture, the solution:

- Accelerated financing workflows
- Reduced operational costs
- Improved compliance and data security
- Enabled scalable, production-ready AI document processing

The implementation was built following the AWS Well-Architected Framework, ensuring a foundation that is secure, reliable, cost-efficient, and scalable as Zulu continues to grow.