



AI Agent **Global Hackathon**

Smart Document Intelligence System **Agentic AI Based Policy Agent**

Oct 2025

www.trianz.com



Agenda



- 1  **Executive Summary**
- 2  **Problem Statement Definition**
- 3  **Our Smart Solution**
- 4  **Architecture & Demonstration**
- 5  **Real World Impact**
- 6  **Future Vision & Scalability**



Executive Summary

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Why the World Needs a New Kind of Document Intelligence



OCR and layout parsing dominate; no **domain reasoning or policy logic execution**.



Hand-off to RPA/orchestration; lacks **end-to-end explainable decision flow**.



Throughput \neq Trust — **no transparent, auditable trails** for regulatory assurance.



IDPs fail to interpret **policy terms, clauses, or medical logic**, requiring manual intervention.



25–40% manual exceptions persist; models rarely self-improve or learn from feedback.

Trianz Solution

Smart Document Intelligence System (SDIS) that transforms policy generation from **Forms to Conversations**.

Powered by **AWS Nova Sonic & Nova Pro**, it fuses **voice, reasoning, and empathy** to deliver real-time, explainable, and compliant document intelligence

Redefining user experience With **Autonomy & Human Synergy**

FROM AUTOMATION TO AUTONOMY

Redefining Intelligent Document Processing for the Agentic Era



The Problem Statement

Why This Matters: The Gap Between Automation and Intelligence

"Over 60% of insurers still rely on rule-based or template-driven IDPs, leading to **25–40% manual exceptions.**" — IDC Report 2025

CURRENT REALITY



Extraction-First Focus



Fragmented Decisioning



Weak Explainability & Compliance



No Domain Awareness



Human-in-the-Loop Bottleneck

WHAT IS MISSING ?

OCR and layout parsing dominate; no **Domain reasoning or Policy logic execution.**

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25–40% Manual exceptions persist; models rarely self-improve or learn from feedback.

Current IDPs reliably pull data, calling the need for an End-to End Solution

enabling *Reasoning, Explainability, Compliance-grade decisioning, & Continuous learning* across enterprise workflows.

Market Gap: Why Existing IDP Solutions Fall Short

Current market leaders automate extraction; *but not reasoning, explainability or closed-loop decision making.*

Landscape	Players	Functionality	Limitation
 Extraction Engines	 AWS Textract  Google Document AI  MS Form Recognizer	Parsing & structure conversion	Great at accuracy; no domain logic or decision reasoning.
 IDP Platforms	ABBYY HYPERSCIENCE KOFAX	Classification & workflow automation	Depend on RPA / manual logic for policy execution & explainability.
 Automation Suites	 UiPath DU & RPA  AUTOMATION ANYWHERE	Process orchestration & exception handling	Lack auditable decision flows and self-learning feedback.

Industry Evidence of Partial Adoption

Allianz

Document analytics pilots still stop at data extraction; no domain-reasoning layer.

MetLife

RPA + IDP combo in policy issuance yet relies on manual scripts and exception queues.

scm
INSURANCE SERVICES

UiPath DU reduced manual entry but still dependent on human validation.

Omega
Healthcare

Scaled automation for medical docs but lacks unified decision intelligence engine.

AWS Perspective

"Organizations generate massive volumes of unstructured data — yet transforming it into actionable intelligence remains a challenge."

— AWS Bedrock Data Automation Blog, 2025

The missing link
Domain reasoning | Explainability | Closed-loop intelligence.



Our Solution:

Agentic AI Based Policy Agent

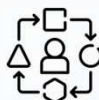
Smart Document Intelligence System: Where Cognitive Intelligence Meets Human Experience



CONVERSATIONAL UNDERSTANDING

Talk. Ask. Understand.

Voice-enabled AI interprets natural speech, understands intent, and responds contextually.



ADAPTIVE REASONING

Thinks like a human

LLM-driven logic allows SDIS to reason across multiple document types; forms, policies, claims, reports.



CONTEXTUAL EXTRACTION

Understands context, not just text.

Uses OCR, NLP & LLMs to interpret relationships, not just words; who, what, why within each document.



AGENTIC AUTOMATION

Autonomous collaboration

Agents coordinate tasks; parsing, validation, compliance, and self-update via S3 state tracking.



EXPLAINABLE AI

Explains every decision.

Provides human-readable rationales for decisions: "why this match," "why this policy."



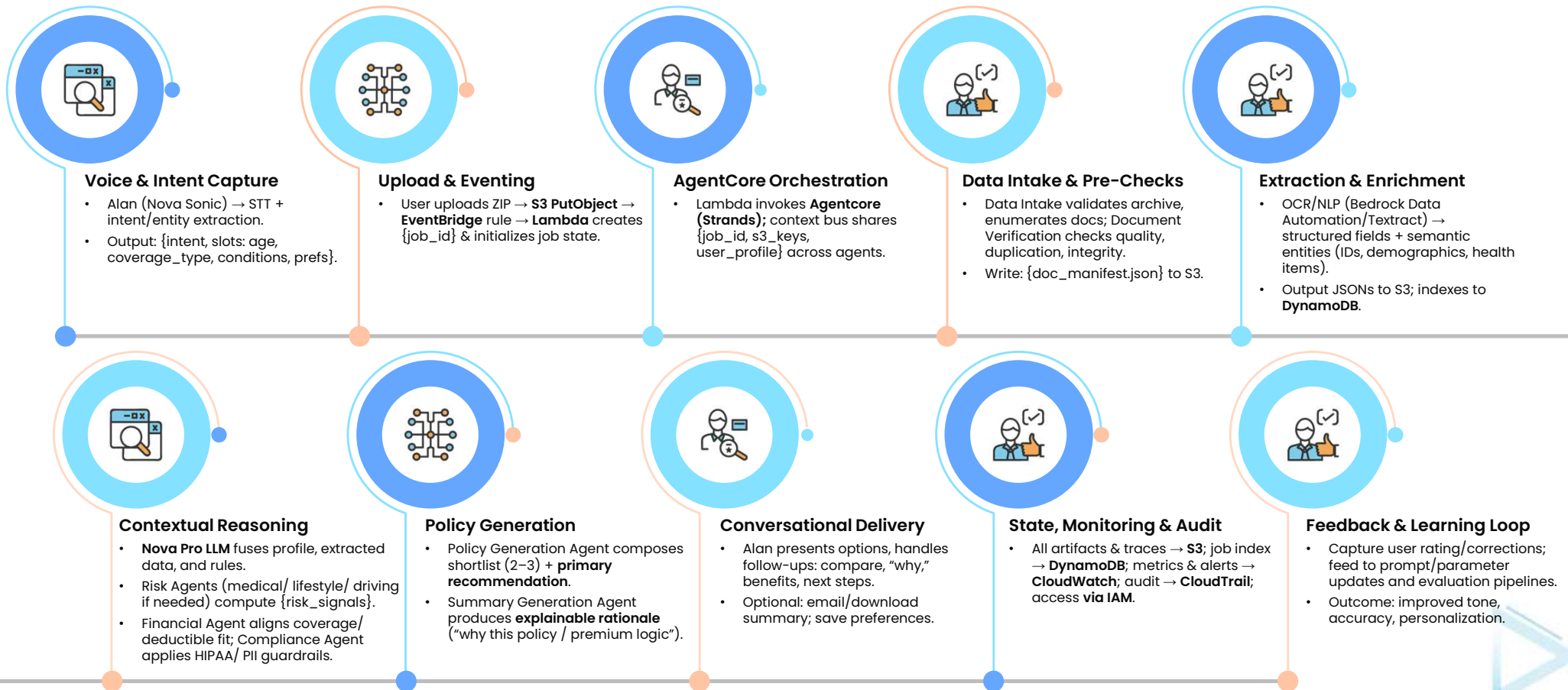
CONTINUOUS LEARNING

Gets better with every interaction.

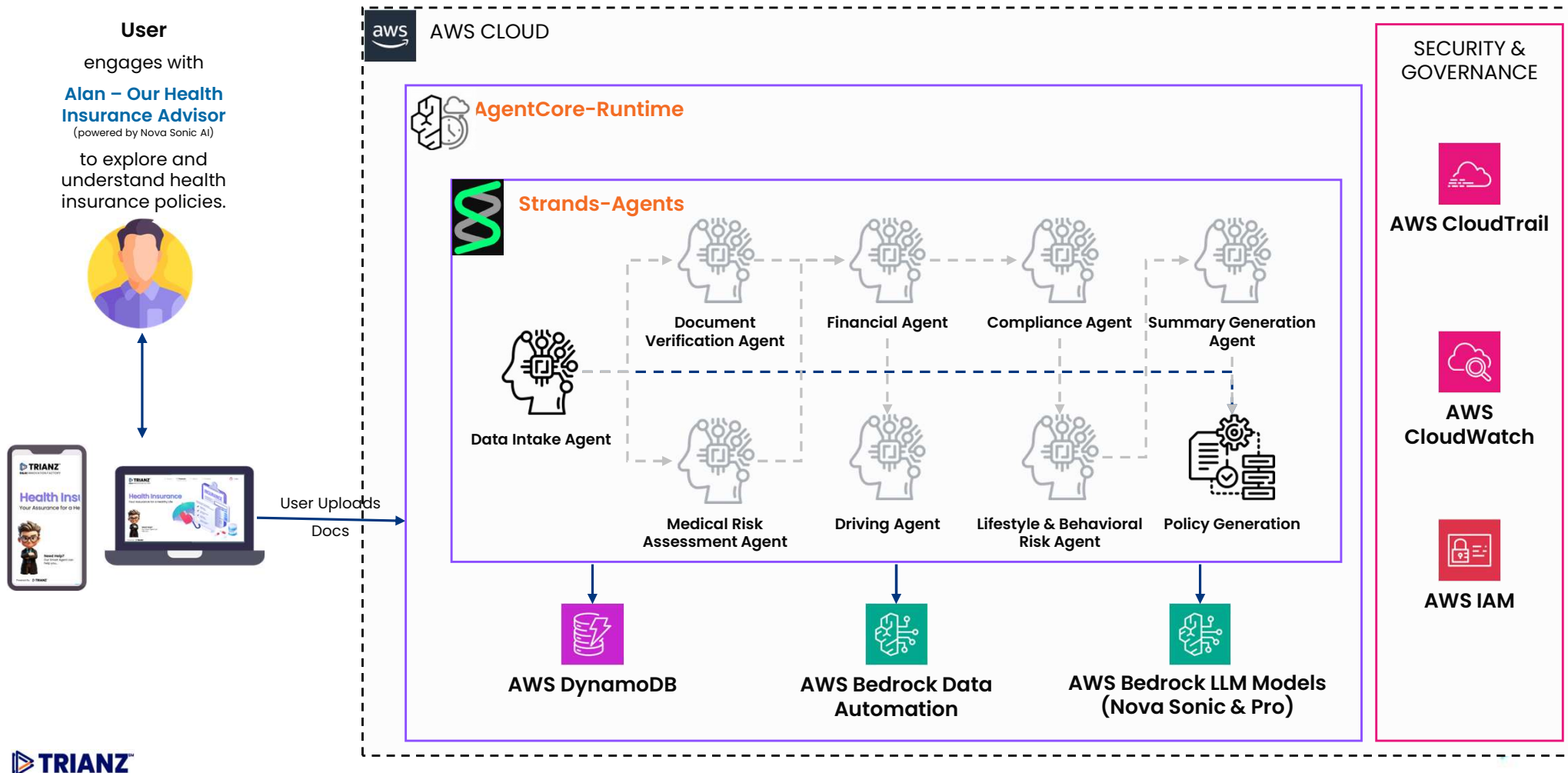
Feedback loops enhance model accuracy and refine conversational tone over time.

How It Works: Our Agentic AI Based Policy Agent

From voice to verified policy — an Agentic, human-like orchestration of data, reasoning, and trust.



Solution Architecture: Agentic AI Based Policy Agent



Behind Production-grade Agentic AI Based Policy Agent

Multi-agent, cloud-native stack enabling real-time reasoning and automation.



AI & LLM



AWS Bedrock



AWS Nova Sonic



AWS AgentCore



Document Intelligence



AWS Textract



AWS Comprehend



AWS Bedrock Data Automation



Agentic Orchestration & Workflow



AWS Lambda



AWS EventBridge



AWS Step Functions



Storage & Data Layer



AWS S3



AWS DynamoDB



Security & Governance



AWS CloudTrail



AWS CloudWatch



AWS IAM



Learning & Feedback Loop



AWS Sagemaker



AWS Bedrock Reinforcement Learning Pipelines



Frontend & Integration



FastAPI

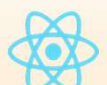


Flask



Streamlit

React



What You Can Experience : Intelligence with Empathy

Alan listens, understands, and reasons; transforming complex process into natural, human-like conversations.



01 USER INTERACTION

Alan greets User and asks to share details (age, coverage needs) or upload medical forms.

**Natural voice engagement;
no menus, no clicks.**



02 INTELLIGENT PROCESSING

Agents analyze policy documents and medical data to derive eligibility and premium insights in real time.

**Transparent, explainable
back-end reasoning.**



03 CONVERSATIONAL RESPONSE

Alan explains policy options, clarifies clauses, and answers 'Why is my premium higher?'

**Human-like dialogue and
personalized context.**



04 LEARNING & FEEDBACK

Alan adapts to user tone and preferences, improving future policy recommendations.

**Continuous improvement
and adaptive experience.**

SOLUTION HIGHLIGHTS



VOICE-ENABLED INTERFACE

Real-time speech recognition (Nova Sonic).



MULTI-DOCUMENT UPLOAD

Handles forms, contracts, policies.



DYNAMIC REASONING

Explains "why" behind each extraction or suggestion.



COMPLIANCE AWARENESS

Built-in guardrails for HIPAA / PII data.



HUMAN-LIKE SUMMARIES

Converts pages of data into simple, spoken insights.










INTERACTIVE FOLLOW-UP

Allows contextual Q&A; "Explain this clause," "Compare these docs."

How SDIS Outperforms Traditional IDP Systems

Bridging Voice, Intelligence & Trust — Redefining Document AI for Health Insurance

Dimension	Traditional IDP	SDIS
 User Experience	Click-driven interfaces with rigid templates	Voice-enabled assistant (Alan) ; talk, ask & understand in natural language
 Cognitive Understanding	Keyword or layout-based extraction only	Contextual reasoning with Nova Pro LLM , interprets health policy context and user intent
 Transparency & Trust	Limited explainability on AI outputs	Explainable AI layer , justifies policy recommendations and premium logic
 Architecture	Static pipelines for OCR/NLP	Agentic collaboration via AWS Lambda & S3 state tracking
 Adaptability	One-time model training per form type	Continuous learning loop , improves with every user conversation
 Compliance Readiness	Manual guardrails for PII/HIPAA	Built-in HIPAA Guardrails, protects PHI data within AWS VPC.
 Outcome Focus	Data extraction accuracy metrics	Improves policy accuracy & customer experience KPIs



Voice + GenAI Fusion



Agentic Ecosystem



Explainable Decisions



HIPAA-Ready AI Ops



Continuous Learning

Future of Human–AI Collaboration & Scalability

Real-World Impact: Reimagining Policy Agent & Customer Interactions

Transforming Policy Generation Through Voice, Intelligence & Empathy



FASTER GENERATION

Automated extraction, validation, and reasoning to accelerate policy creation.



ENHANCED UX

Voice-driven, intuitive interaction simplifies complex processes.



GREATER CONFIDENCE

Transparent, explainable responses build user trust and clarity.



STRONGER COMPLIANCE

Embedded HIPAA guardrails ensure secure, consistent outcomes.



EMPOWERED OPERATIONS

AI-assisted workflows eliminate repetitive manual tasks.



CONTINUOUS IMPROVEMENT

Adaptive learning enhances accuracy and personalization with every use.

65% of Insurers

report that Manual data entry & Verification remain the top cause of Policy issuance delays

Deloitte Insurance Outlook 2025

Voice-enabled AI can reduce average handling time by

40%

Enhancing Customer satisfaction and Decision transparency

McKinsey Digital Insurance

Future Vision & Scalability: Building An Autonomous Policy Agent

From intelligent automation to autonomous collaboration — redefining document intelligence at scale.



CROSS-INDUSTRY EXPANSION

Power document intelligence across **banking, legal, and public sectors**.



AUTONOMOUS AGENTS

Domain-trained agents to handle **policy, claims, and compliance tasks**.



UNIFIED ECOSYSTEM

Seamless integration with **Concierto** for **data-to-decision flow**.



INSIGHT-TO-ACTION LOOP

Convert document insights into **real-time business outcomes**.



HUMAN-AI SYNERGY

Voice-led copilots driving **intuitive enterprise collaboration**.

Applicability



Insurance

Policy & claims triage agents integrated with underwriting workflows.



Fin Serv

AI-powered compliance documentation and transaction audits.



Pharma

Pharma documentation and regulatory report automation.



Public Health & Serv

Conversational document intelligence for citizen services, patient onboarding, and claims validation.

Production-Ready | Modular | Enterprise-Grade.



Built to Scale

Multi-agent ecosystem engineered for real-world production.



AWS-Native Foundation

Leverages Bedrock, Lambda, and DynamoDB for reliability and speed.



Cross-Industry Ready

Expands effortlessly from **insurance** to **banking, healthcare, compliance, and public sector**.



Continuous Intelligence

Adaptive agents refine performance and context over time.



Secure by Design

Embedded IAM, CloudTrail, and governance layers ensure enterprise-grade compliance.



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