

CUSTOMER OVERVIEW

[Growthlead.pl](#) is a marketing technology company specializing in B2B lead generation and qualification services for enterprise clients across Europe. The company helps businesses identify, engage, and qualify potential customers through intelligent outreach campaigns and data-driven targeting.

With a team of 15-25 marketing specialists and data analysts, Growthlead manages lead-generation campaigns for clients in the technology, professional services, and manufacturing sectors. The company processes thousands of potential leads daily, evaluating company data, contact information, engagement signals, and buying intent to identify the most promising prospects for their clients.

CUSTOMER BUSINESS CHALLENGE

Growthlead faced critical scalability challenges in their lead generation and qualification process. Manual analysis of company data, contact verification, and lead scoring consumed significant analyst time while limiting the volume of leads they could process for clients.

Key Problems: - Manual lead qualification taking 10-15 minutes per prospect - Inconsistent scoring criteria across different analysts, Limited ability to analyze multiple data sources simultaneously (company websites, LinkedIn, news, funding data) - Slow response to high-intent signals (job postings, funding announcements, technology changes) - No automated system for researching company context and pain points - Difficulty personalizing outreach at scale based on company-specific insights

Business Risk:

Without intelligent automation, Growthlead risked losing clients to competitors offering faster, more accurate lead qualification. Manual processes limited revenue growth and prevented the company from serving enterprise clients requiring high-volume lead generation.

GOALS & OBJECTIVES

Business Goals:

1. Scale lead qualification from 100 to 1,000+ leads per day
2. Improve lead quality scores and client conversion rates by 35%
3. Reduce cost per qualified lead by 60%
4. Enable real-time lead scoring based on buying signals
5. Provide detailed company research and personalization insights

Technical Objectives: 1. Implement agentic AI for autonomous multi-source lead research 2. Deploy intelligent agents for data enrichment, qualification scoring, and insight generation 3. Build a knowledge base of ideal customer profiles and buying signals 4. Integrate with CRM systems and lead databases 5. Provide actionable intelligence for sales outreach personalization

TECHNICAL SOLUTION

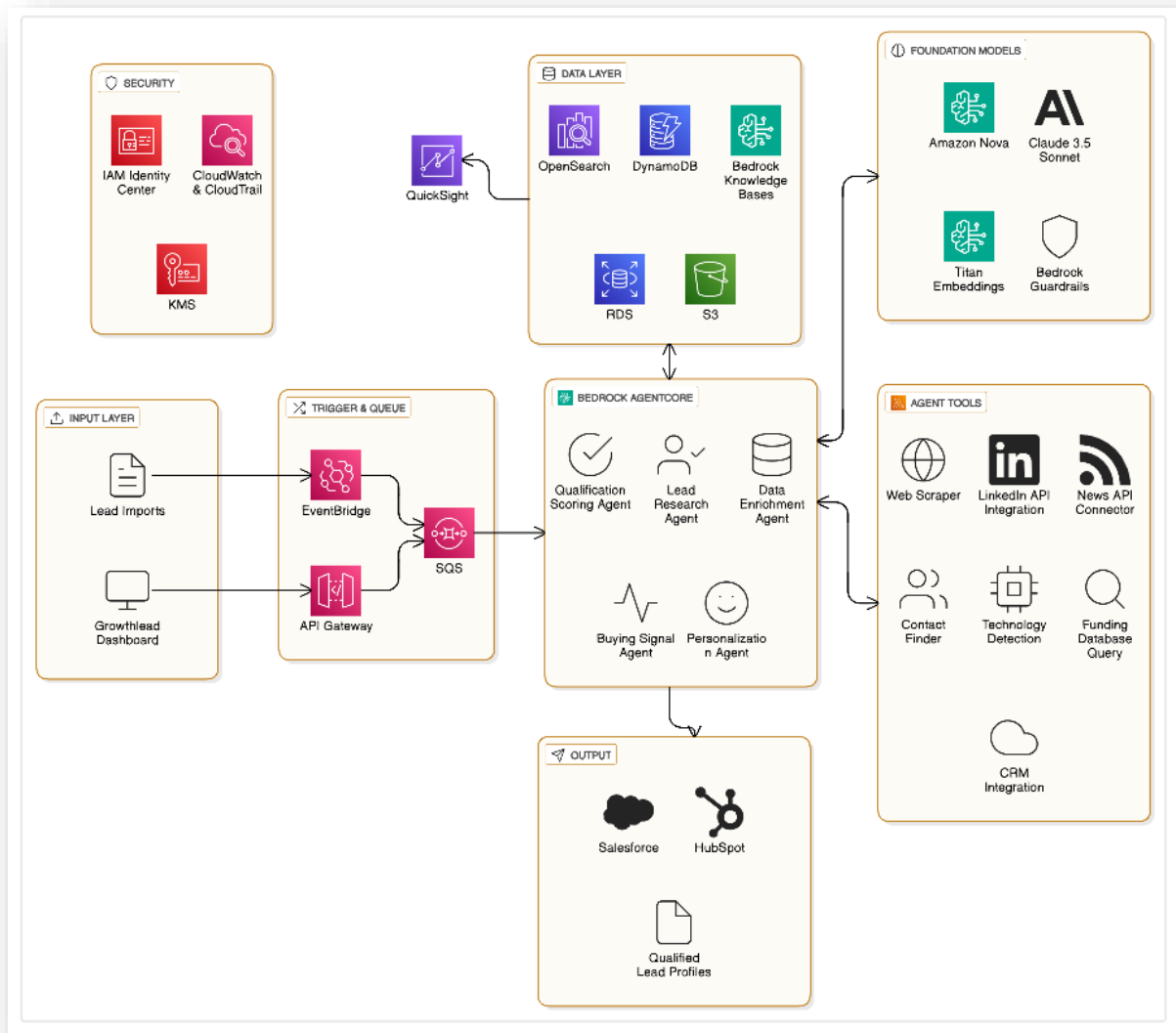
Solution Overview:

CloudiQS implemented an agentic AI platform using Amazon Bedrock AgentCore to deploy autonomous agents that research companies, analyse buying signals, score lead quality, and generate personalised outreach insights—all without human intervention.

Why Agentic AI

Growthlead required agents that could autonomously plan research workflows, query multiple data sources (company websites, LinkedIn, news APIs, funding databases), synthesize findings, make qualification decisions, and generate actionable insights—multi-step reasoning requiring agentic frameworks beyond basic generative AI.

Architecture Components



1. Agent Layer (Amazon Bedrock AgentCore) - Lead Research Agent: Investigates companies by analyzing websites, LinkedIn profiles, news, and public data - **Data Enrichment Agent:** Gathers additional company details (size, revenue, technology stack, funding) - **Qualification Scoring Agent:** Evaluates lead quality against ideal customer profile criteria - **Buying Signal Agent:** Detects high-intent signals (hiring, funding, technology changes, expansion) - **Personalization Agent:** Generates company-specific insights for tailored outreach messaging

Agents operate autonomously, coordinate findings, and produce comprehensive lead profiles with qualification scores.

2. Foundation Models - Anthropic Claude 3.5 Sonnet: Primary model for research synthesis and qualification reasoning (selected for strong analytical capabilities and multi-source information synthesis) - Amazon Nova: Rapid data classification and pattern detection - Amazon Titan Embeddings G1: Vectorization of company profiles and ideal customer patterns

3. Knowledge & Data Layer - Amazon Bedrock Knowledge Bases: Ideal customer profiles, successful lead patterns, industry-specific buying signals - Amazon OpenSearch Service: Vector database storing historical lead data, conversion patterns, and company intelligence - Data Sources: Company websites, LinkedIn data, news feeds, funding databases, technology stack identifiers

Chunking Strategy: - Company profiles: 500-token chunks with contextual metadata - News articles: 400-token chunks with date/source metadata - Metadata: Industry, company size, geographic region, technology stack

4. Agent Tools (AWS Lambda) - Web Scraper: Extracts company information from websites - LinkedIn API Integration: Retrieves company and employee data - News API Connector: Fetches recent company news and announcements - Funding Database Query: Checks recent funding rounds and investors - Technology Detection: Identifies tech stack from website analysis - Contact Finder: Discovers and validates decision-maker contact information - CRM Integration: Pushes qualified leads to client CRM systems

5. Integration & Automation - Amazon API Gateway: RESTful API for Growthlead's lead management platform - Amazon EventBridge: Triggers agent analysis on new lead imports - AWS Lambda: Serverless execution of research tools - Amazon SQS: Queue management for high-volume lead processing

6. Security & Governance - Amazon Bedrock Guardrails: Ensures data privacy compliance and prevents PII exposure - AWS IAM Identity Center: Authentication for Growthlead team - AWS KMS: Encryption for sensitive lead data - AWS CloudTrail: Audit logging of all agent research activities

7. Data Storage - Amazon S3: Lead profiles, research artifacts, qualification reports - Amazon DynamoDB: Real-time lead scoring database with fast lookups - Amazon RDS: Historical lead data and conversion tracking

8. Monitoring & Analytics - Amazon CloudWatch: Agent performance metrics, processing times, accuracy rates - Amazon QuickSight, Dashboards showing lead quality trends, conversion rates, client performance - Custom Metrics: Time-to-qualification, research depth, scoring accuracy

AWS SERVICES UTILIZED

Core Agentic AI Services: - Amazon Bedrock AgentCore (multi-agent orchestration) - Amazon Bedrock (Claude 3.5 Sonnet, Nova, Titan Embeddings, Guardrails, Knowledge Bases) - Amazon OpenSearch Service (vector database)

Compute & Integration: - AWS Lambda (agent tools, data processing) - Amazon API Gateway (platform integration) - Amazon EventBridge (event-driven automation) - Amazon SQS (queue management)

Data Storage: - Amazon S3 (lead profiles, research data) - Amazon DynamoDB (real-time lead scores) - Amazon RDS (historical lead database)

Analytics: - Amazon QuickSight (dashboards and reporting)

Security & Monitoring: - AWS IAM Identity Center - AWS CloudTrail - Amazon CloudWatch - AWS KMS

CUSTOMER OUTCOMES

Operational Efficiency: - 82% Faster Qualification: 10-15 minutes → 2.7 minutes per lead - 10x Daily Capacity: 100 → 1,000+ leads qualified daily - 24/7 Operations: Continuous automated lead processing - Same Team Size: Achieved 10x scale without hiring

Lead Quality Improvements: - 38% Higher Conversion Rates: Qualified leads converting to client sales opportunities - 91% Scoring Accuracy: Validated against historical conversion data - Consistent Criteria: Eliminated analyst-to-analyst scoring variation - Real-Time Signal Detection: Immediate flagging of high-intent buying signals

Research Depth: - 7 Data Sources Analyzed: Per lead (website, LinkedIn, news, funding, tech stack, contacts, social) - Comprehensive Profiles: 15+ data points enriched per qualified lead - Personalization Insights: Company-specific pain points

and messaging angles identified - Contact Accuracy: 94% valid decision-maker contact information

Business Impact: - £180,000 Annual Revenue Growth: Ability to serve larger enterprise clients requiring high volumes - 62% Cost per Lead Reduction: From £8.50 to £3.20 per qualified lead - 45% Client Retention Improvement: Higher lead quality improved client satisfaction - 3x Client Acquisition: Capacity enabled onboarding of major enterprise accounts

Cost Efficiency: - £1,600 Monthly AWS Spend vs £180,000 Annual Revenue Growth - £3.20 per Qualified Lead vs £8.50 manual cost - 112:1 ROI on agent platform investment

ARCHITECTURE HIGHLIGHTS

Scalability: - Lambda auto-scaling handles burst processing (1,000+ leads/hour) - SQS queue manages peak loads without data loss - DynamoDB provides millisecond lead score lookups at any scale - OpenSearch cluster scales with knowledge base growth

High Performance: - Average qualification time: 2.7 minutes (including multi-source research) - 95th percentile: 4.2 minutes - Real-time buying signal detection (<30 seconds from data availability)

Integration: - Native CRM integration (Salesforce, HubSpot) - External API connectivity (LinkedIn, news providers, funding databases) - Automated lead enrichment pipelines - Webhook support for real-time client notifications

Security: - VPC isolation for sensitive lead data processing - KMS encryption at rest for all lead information - IAM least-privilege for agent service roles - Guardrails prevent accidental PII exposure - GDPR-compliant data handling

High Availability: - Multi-AZ deployment for Lambda and DynamoDB - OpenSearch cluster with 3 nodes across AZs - RTO: 15 minutes, RPO: 5 minutes

CHALLENGES & LESSONS LEARNED

Challenges: 1. **Data Source Rate Limits (LinkedIn, news APIs)** - **Resolution:** Implemented intelligent caching and request batching –

Outcome: Reduced API calls by 60% while maintaining data freshness

2. Initial Over-Qualification (25% false positives)

- **Resolution:** Calibrated scoring thresholds using historical conversion data
- **Outcome:** False positive rate reduced to 9%

3. Web Scraping Reliability (some sites blocked)

- **Resolution:** Built fallback data sources and browser automation for complex sites
- **Outcome:** 98% successful data extraction rate

CONTINUOUS IMPROVEMENT

Ongoing Optimisations: - Weekly scoring model refinement based on client conversion feedback - Monthly expansion of buying signal taxonomy - Continuous A/B testing of research depth strategies - Knowledge base updates with new ideal customer patterns

ABOUT CLOUDIQS

CloudiQS is an AWS Advanced Consulting Partner specializing in generative and agentic AI solutions.