



AI-POWERED PATENT APPLICATION ASSISTANT

AN AGENTIC WORKFLOW CASE STUDY

An
Intellectual
Property Law
Firm

 **CONTATA**

This case study highlights the work done by Contata Solutions, Atomic Data's AI partner.

THE CUSTOMER

An international IP law firm

CHALLENGES

- Manual tracking consumed attorney time
- Document-heavy process led to penalty fees

SOLUTIONS

- Comprehensive Document Management System
- Specialized AI agents

INDUSTRY

Legal Services

- Office action drafting slowed productivity
- Difficult to manage application interactions
- Missed information raised liability concerns
- Intelligent one-click AI operations
- Context-aware AI chat interface

INTRODUCTION

A large-sized international intellectual property law firm with more than 120 attorneys specializing in patent prosecution was facing challenges with the document-intensive nature of their practice. Handling over 5,000 active patent applications annually, their attorneys and paralegals spent countless hours on manual

document review, reference tracking, and office action response preparation. The firm needed a solution to streamline these processes while maintaining their reputation for meticulous attention to detail and high-quality legal work.

CHALLENGES

Some of the core challenges faced by the client included:

- Manual tracking of changes across multiple patent applications required significant attorney time
- Document-intensive process with complex reference citations led to occasional penalty fees

- Time-consuming office action response drafting reduced overall productivity
- Complex interactions between related patent applications were difficult to manage efficiently
- Risk of missing critical information in extensive file histories increased liability concerns

INSIGHTS

Our discovery process revealed that attorneys were spending up to 40% of their time on routine document analysis that could be automated. The firm had accumulated a wealth of patent prosecution history data that could be leveraged for more efficient processing. Additionally, we found that document

selection and context management were the most significant barriers to implementing AI in their workflow - attorneys struggled to determine which document combinations were relevant for specific analytical tasks.

SOLUTIONS

We implemented a PatentAI Assistant built on a modern agentic workflow architecture that combines AWS and Google Cloud Platform services:

1. Comprehensive Document Management System

- Daily automated scraping of patent office databases
- Intelligent document classification and relationship mapping
- Secure integration with existing docketing systems

2. Specialized AI Agents

- Reference Validator Agent for citation accuracy
- OCR Retriever Agent for converting image-based documents
- Rejection Parser Agent for analyzing office actions

3. Intelligent One-Click AI Operations

- Office Action Response Generator with automatic document selection
- Antecedent Basis Analyzer for claim dependencies
- Specification Support Identifier for written description issues
- Reference Comparison Engine for prior art analysis
- PCT Cost Calculator for international filing strategies

4. Context-Aware AI Chat Interface

- Multi-document context for comprehensive analysis
- Saved interactions for team knowledge sharing
- Document relationship tracking across applications



The IP law firm realized a 65% reduction in time spent on document review

BENEFITS

The PatentAI Assistant transformed the firm's patent prosecution practice with measurable improvements:



- 65% reduction in time spent on document review and analysis
- 40% reduction in attorney hours dedicated to routine tasks
- 90% decrease in reference citation penalties through automated tracking

- 70% time saved on office action response drafting
- 50% faster prior art analysis compared to manual methods

Attorneys now focus on strategic aspects of prosecution rather than document management, resulting in improved work quality and client satisfaction. The system paid for itself within the first six months through efficiency gains, penalty avoidance, and subscriptions, with projected annual savings of \$1M+ in attorney time and improved prosecution outcomes.

Practical AI solutions built for results.

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