

Interactive Support BOT for IO Progression Using Amazon Bedrock

Executive summary

DMI is a middleware software solution that integrates **Datadog's observability platform** with **MuleSoft's API and integration platform**. As the global user base of the DMI platform expanded, Nova's lean development and support teams were overburdened by repetitive, Tier 1 support demands. To address this, **IO Connect Services asked Nova** to implement an interactive support bot powered by **Amazon Bedrock**.

The solution provides:

- 24/7, scalable, intelligent self-service support.
- Reducing Tier 1 ticket volume by 47%.
- Improving time-to-resolution to under 2 minutes.
- Boosting customer satisfaction (NPS +18 points).

The challenge

IOCS users who use DMIs routinely require assistance with:

- Setting up and configuring the Datadog–MuleSoft integration
- Troubleshooting common integration issues
- Understanding implementation best practices
- Reporting product incidents

Users of DMI frequently submitted support queries related to integration and troubleshooting. These repetitive, low-complexity requests consumed significant engineering time, reducing availability for higher-value support and core product development. As adoption of the DMI solution increased across global regions, delivering consistent, high-quality, and always-available support became increasingly challenging for Nova. The IOCS team, responsible for supporting DMI users, needed a scalable, intelligent solution to handle Tier 1 queries without adding headcount or sacrificing customer experience.

Why AWS?

Nova suggested to IOCS select AWS for its proven track record of delivering scalable, secure AI services. Specifically, Amazon Bedrock offered:

- Access to multiple foundation models (Anthropic Claude, AI21, etc.) for rapid experimentation and fine-tuning.
- Fully managed infrastructure, minimizing operational complexity.
- Enterprise-grade security, privacy, and data residency controls—critical for handling sensitive customer interactions.

By choosing AWS, IOCS team could focus on delivering an exceptional support experience rather than managing ML infrastructure.

About Costumer



Figure 1 – Nova Logo

Nova is a company specializing in Information Technology Consultancy Services and operates as the product brand of IO Connect Services. Its team developed DMI, a middleware SaaS product that connects Datadog with MuleSoft.

"When you start with Nova, you stick to Nova, and grow with Nova!"

"Amazon Bedrock."

By using AWS's managed services and Bedrock's advanced GenAI capabilities, Nova's team was able to focus on delivering an exceptional support experience while adhering to strict quality, security, and governance standards.



Amazon Bedrock

Figure 2 – Amazon Bedrock service

The Solution

Nova implemented an intelligent, agentic support bot deeply integrated into the DMI dashboard and support portal, designed to deliver highly accurate, context-aware, 24/7 support for global users. The solution is built using Amazon Bedrock's enterprise-ready GenAI capabilities, leveraging a multi-step process for data preparation, model orchestration, and secure, scalable deployment.

Data Preparation and Knowledge Base Curation

A critical aspect of the project was creating a high-quality, well-grounded knowledge base to avoid hallucinations and ensure accurate answers. Nova's team designed a pipeline that:

- **Data Extraction:** Pulled historical support conversations from Microsoft Outlook mailboxes, applying filters to isolate relevant customer interactions and incident reports.
- **AI-Assisted Cleaning:** Leveraged Anthropic Claude 3.5 Sonnet in Amazon Bedrock to help clean and summarize extracted data, standardizing language and removing noise automatically.
- **Human Review:** All cleaned data underwent human approval to ensure only validated, high-quality content entered the knowledge base, enforcing governance best practices.
- **Embeddings Generation:** Used Amazon Titan Embeddings models in Bedrock to transform approved knowledge into dense vector representations optimized for retrieval-augmented generation (RAG).
- **Storage:** Stored embeddings and associated metadata securely in Amazon RDS for PostgreSQL, chosen for its reliability, transactional consistency, and flexible querying to support real-time retrieval workflows.

This approach ensured the bot's responses remained grounded in validated, contextually relevant knowledge while maintaining tight human oversight and data quality controls.

The conversational experience is powered by Amazon Bedrock's foundation models, orchestrated to deliver fluent, human-like Q&A while enforcing strict grounding via Retrieval-Augmented Generation (RAG).

By performing real-time embedding similarity searches in PostgreSQL against the curated knowledge base, the bot ensures contextually relevant, validated responses for user queries. This agentic design also enables intelligent escalation: when complex or unresolved issues are detected, the bot prompts users to open support tickets automatically pre-filled with conversation context. To maintain enterprise-grade safety and compliance, the solution leverages Bedrock's Guardrails to block inappropriate content, enforce answer boundaries to validated knowledge, and enable logging and monitoring for continuous improvement and auditability.

Best features

- **Conversational Support**
- **Agentic Workflows**
- **Improved Governance**
- **Global Availability**
- **Cost management**
- **Grounded AI Responses**

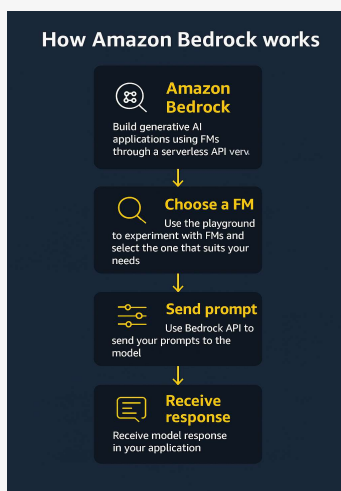


Figure 3 - How Amazon Bedrock works

Results and Benefits

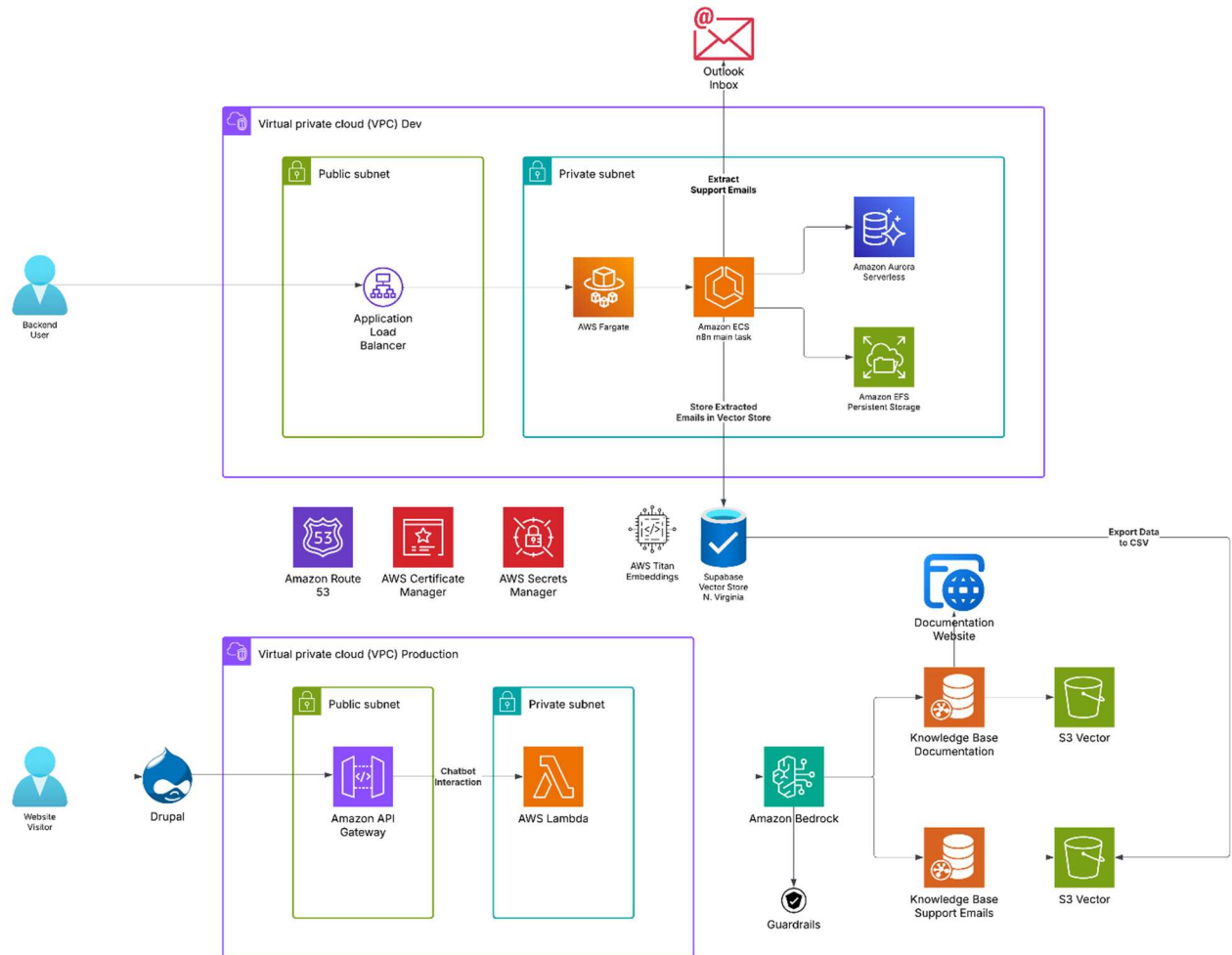
Amazon Bedrock was central to the success of this solution, offering Nova a fully managed, enterprise-grade platform for generative AI that combined flexibility, security, and ease of integration.

Bedrock's foundation models, including Anthropic Claude for natural language generation and Titan for embeddings, enabled the team to deliver highly accurate, grounded responses through Retrieval-Augmented Generation (RAG) using PostgreSQL. Its built-in guardrails provided robust controls to enforce responsible AI usage, ensuring all outputs remained safe, appropriate, and based on validated knowledge. This seamless integration with other AWS services allowed Nova to deploy a scalable, production-ready solution without the complexity of managing custom ML infrastructure.

The implementation of the Amazon Bedrock-powered support bot has transformed Nova's support strategy for DMI users, delivering measurable improvements while laying the foundation for continued innovation. By automating the resolution of nearly half of all Tier 1 support queries, **the solution has significantly reduced the workload on support teams**, enabling them to focus on complex, high-value issues and core product development. Median resolution times for bot-handled requests have dropped to under **two minutes**, directly **improving customer experience and satisfaction**, as reflected in an **18-point increase in NPS scores**.

Beyond immediate operational gains, adopting Amazon Bedrock has provided a secure, scalable platform that integrates seamlessly with other AWS services, offering flexibility to expand features such as multilingual support, advanced analytics, or integration with CRM systems. This approach not only ensures continued alignment with best practices in AI ethics, privacy, and safety thanks to Bedrock's enterprise-grade guardrails and monitoring but also positions Nova to iteratively improve the solution over time, delivering lasting value to both Nova's internal teams and external DMI users as the solution evolves into a mature, scalable product.

Interactive Support BOT architecture



Next Steps

The Nova team plans to extend the solution's reach by integrating multilingual support to better serve a global user base. Efforts will also focus on enriching the training data with partner documentation and community forum content to improve response quality and coverage. Additionally, insights drawn from user interactions with the bot will be used to identify product pain points and guide strategic roadmap decisions, ensuring continuous alignment with customer needs.



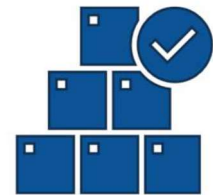
Intelligent Support

This solution delivers highly accurate, context-aware answers using Bedrock's Foundation models with RAG.



Secure and Responsible AI

Built with Amazon Bedrock's enterprise-grade guardrails, the bot enforces the safety, privacy, and responsible AI usage.



Scalable Architecture

Designed to grow with user demand, the serverless Bedrock integration enables effortless scaling.



About Nova

Nova is a company specializing in Information Technology Consultancy Services and operates as the product brand of IO Connect Services. All our team members have one thing in common: our enthusiasm for technology and our passion for customer service excellence. We provide services in all North America, LATAM and Europe. Our headquarters are in NYC metropolitan area, and we also have offices in Guadalajara, Mexico and Madrid, Spain.