


Invenergy is a global renewable energy company based in the Midwest. As part of their operations, they must comply with the agreements and standards of power transmission organizations across different regions. They asked the Data Science Clinic to develop a specialized chatbot to search and extract information from these documents efficiently. This is vital for Invenergy since quick access to accurate regulatory and technical information directly impacts its ability to serve clients.

The team successfully built a generative AI chatbot that references specific documentation before generating responses, enabling precise answers to complex energy market questions. The team optimized its ability to find and process relevant information by breaking the documents into smaller, meaningful segments. The team also ensured seamless integration with internal Invenergy systems.

This solution could dramatically reduce document review time, accelerating employee training and improving operational efficiency. It enables Invenergy to evaluate AI compatibility within their company and the energy industry, providing valuable insights into their approach to technological innovation.

Figure: Example Chatbot Response Explaining eDART tickets

What is the lifecycle of an eDART ticket?

 **HyDE RAG Pipeline with Attribution**

Based on the documentation, here's a brief overview of the lifecycle of an eDART ticket:

1. **Creation and Issuance:** An eDART ticket can be created by a licensed eDART operator (such as an energy retailer or power supplier) when they first begin offering their services in a new area. This is typically done for a limited period after the initial installation of a transmission or distribution grid, such as 30 days to two months.
2. **Purchase and Payment:** An eDART ticket can be purchased by a licensed eDART operator from an energy retailer or power supplier who has installed their infrastructure in that area. The operator needs to provide documentation outlining the type of eDART service being offered, including the number of units sold per month, total revenue generated, and any other relevant data.
3. **Activation:** Once purchased, a eDART ticket is activated on the licensed eDART operator's network by connecting it with a device or service that will use the eDART service. This can include things like smart meters, smart switches, or even electric vehicle charging stations.
4. **Ongoing Usage:** A typical eDART ticket remains in operation for several months to years after its initial activation. During this time, the ticket is used to support usage of the eDART services by licensed eDART operators and their customers. At the end of the ticket's operating period (typically 30 days), the operator will usually terminate it and provide a new ticket for renewal.
5. **Discontinuation:** When the licensee who purchased an eDART ticket becomes no longer required to operate its systems or services, they can choose to cancel their eDART ticket. This ensures that customers are not held hostage by licensing fees associated with keeping the service active.

Overall, the lifecycle of an eDART ticket is focused on maximizing revenue for licensed operators while maintaining access to new markets and opportunities.

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